

Defending the habitat: in the first of a two-part feature, Jon Turney discusses the problems that beset the NATURAL ENVIRONMENT RESEARCH COUNCIL (page 11)

Paper chase: in the first of an occasional series on library and bibliographical projects, David Sutton looks at the work of a comprehensive location register of modern English LITERARY MANUSCRIPTS, based at the University of Reading (page 13)



Rara avis: once, the amateur contributed substantially to research in the natural sciences. With increasing specialization, SCIENTIFIC AMATEURISM has all but died out. Paul Greenwood and Jonathan Adams argue that universities and colleges have a duty to foster this neglected branch of research (page 15)

The life of the Truth-Teller: Richard Freeborn reviews Michael Scammell's massive biography of ALEXANDER SOLZHENITSYN, novelist, polemicist, exiled critic of both east and west (page 17)

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The Jarratt revolution

When Lord Flowers was chairman of the Committee of Vice-Chancellors and Principals, five special committees were set up to examine external relations, links with industry, private fundraising, academic standards and university efficiency. The first so far has failed to break the surface of wider consciousness, which does not suggest that a dynamic new deal on public relations is being planned. The second has suffered a similar fate. The third has already delivered an inevitably cool verdict on the Government's ideologically feverish (and politically convenient) hope that universities can raise significant income from private sources. The fourth, the Reynolds committee, started in a low-profile piece-meal fashion but the accumulation of quiet detail in its reports is building up into a useful commentary on how universities maintain and monitor academic standards.

The fifth, the Jarratt inquiry into university efficiency, published its report on Monday. Like the other three it was, in its early stages, the victim of low expectations. With Jarratt too there was a whiff of the suspicion that the vice-chancellors were gong through the motions that they had established the Jarratt inquiry to show they took the issue of university efficiency seriously and to avoid the real Rayner thing.

Now that the report has been published it is difficult to maintain such a dismissive view of its significance. Jarratt may fall short of the managerial revolution that the Raynerites and more generally the radical right believe the universities so badly need but it will come to be recognized by many as a more prominent landmark in the disturbing pattern of the 1980s than either the Department of Education and Science's forthcoming Green Paper or last year's great debate in response to the University Grants Committee's 28 questions.

The importance of Jarratt lies not so much in its detailed recommendations — some of these are obvious, others unrealistic, and others again wrong-headed — but in the fact that its publication highlights the very great changes that have already taken place in the way universities are governed and managed. Robbins made Jarratt inevitable. For it was the great expansion of the universities in the 1960s and 1970s that turned them into large and complex bureaucracies which had to be managed with professional sophistication. These very different universities with many thousands of students, complex capital developments, and increasingly delicate and difficult tasks of resource allocation to increasingly divergent academic and service activities could no longer be run on the quiet collegial pattern that had been sufficient for the much simpler needs of earlier universities in which students were still numbered in hundreds. So the most important aspect of Jarratt may be its

retrospective quality, its capacity to convince university opinion that the world has turned and will not turn back. The universities' quiet managerial revolution began sometime in the 1960s; it is not so threatening a spectre of the 1980s.

The events of the last five years of course have quickened the pace of this revolution. Since 1981 universities have been faced with decisions at least as difficult as those facing much of private industry and Whitehall. It needs to be said in defence of the universities that they have performed at least as competently under this mounting pressure as industry and Government. But the prospects for the next ten years are that these pressures will increase rather than be reduced. So it is difficult to dispute the basic message of Jarratt, that universities must be managed as efficiently and professionally as possible.

But it is not so difficult to dispute some of the detailed recommendations made by Jarratt for enhancing their managerial capacity. The recommended formula can be briefly summarized. Councils should assert themselves over senates, which represent too often the conservative status quo, and draw up strategic plans. Lay members, preferably young thrusts from industry and commerce, should be given more influence. The vice-chancellor must be recognized as chief executive and deans and heads of department should be seen as top-down line managers rather than bottom-up representatives or even academic *primi inter pares* (ie they should be appointed not elected). Both staff and departments should be subject to periodic review, and universities should make much greater use of performance indicators (employability of graduates, A level scores, applications, research support, publication records, Uncle Tom Cobbleigh and all).

The model that will immediately come to most minds is that of private industry. In a few cases this may provoke uneasy doubts about whether the practice of Reed International is really typical of most British companies and so about whether the model that the universities are being encouraged to follow may not in fact be rather closer to some more mediocre mean. But there is another model much closer to home. The management structure proposed by Jarratt for the universities is very close to that which prevails in most polytechnics. Governing bodies, on which local businessmen are usually well represented, are clearly superior in authority to academic boards; directors are very much chief executives; and deans and heads of department are generally appointed line managers. It could even be argued that the National Advisory Body's league tables of unit costs and complex paraphernalia of mitigation and categorization provide a quarry of performance indicators.

But such is the height of the binary barrier this parallel with the polytechnics does not seem to have been obvious to the members of the Jarratt committee. So a valuable opportunity has been missed to compare the costs and benefits of both university and polytechnic management styles. Instead Jarratt offers assertions that university efficiency would benefit from a more industrial model of management without proper analytical backing. The binary barrier is also a problem at another point in the report. It urges the Department of Education and Science to create a more predictable planning environment for universities but fails to say anything about the most important precondition of all, the creation of the capacity to view higher education as a whole which can really only be done by establishing an overarching national commission.

Much of Jarratt of course is good common sense. The role, composition and staffing of the UGC do need to be reviewed, especially now that the committee has adopted a much more active role. Universities do have far too many committees and non-academic management decisions should be largely delegated to administrators. Resource allocation based on historic costs modified by wheeling and fudging no longer works. Universities must have both the will and the capacity to take corporate views of their academic futures because the alternative can only be debilitating drift.

But there must be doubt about the strategy recommended by Jarratt. It is derived from an industrial (or polytechnic) model that relies heavily on the quality of top management. The objections to this course are, first, that just as in the National Health Service retelling district administrators' general managers' has not really changed the ambiguous environment in which their management has to be exercised so similar changes in the formal structure of university management may have rather little effect and, second, that to allow universities to be run by managerially minded senior academics with professional and disciplinary axes still to grind may threaten their indispensable pluralism.

An alternative model would have been that of the civil service. This would require the building up of a cadre of respected, self-reliant, and highly competent administrators who would be able to provide the managerial backbone for the universities but also retain a necessary academic neutrality. This model has not appealed to the Jarratt committee. In its report the role of university administrators is reduced to that of service experts — on paper rather than on top. In the present political climate of course a civil service model would be desperately unpopular — but that does not mean it might not be more appropriate to the particular condition of universities.

Leaving Wales alone

It is a pity that Mr Nicholas Edwards, Secretary of State for Wales, has not seized the opportunity for a proper look at higher education in the Principality in his reassessment of the Wales Advisory Body. The consultation exercise now under way is hardly worthy of the name, so effectively has it been preempted by the judgments contained in Mr Edwards' document. In it, he makes it quite clear that he would be happy to leave well alone at the WAB and only tinkering will be contemplated.

The timetable for the exercise, which demands responses by the end of the month, gives a strong clue to the seriousness with which the Welsh Office is treating the review. The need for the body is not questioned, relations with the larger universities do not rate a mention and even internal questions on the structure and role of the WAB are mostly answered in advance.

Yet there must be doubts about whether the existing arrangements are the most appropriate for dealing with

higher education in Wales. Mr Edwards is complimentary about the way in which the WAB produced its recent plan for the public sector but, in reality, the exercise showed up the deficiencies in the system. The political accountability which Mr Edwards values in supporting a committee structure giving a voice to every local authority, produced a highly political outcome. Selectivity played a second fiddle to regional considerations, leaving the WAB to shuffle sometimes tiny student numbers around a network too small to allow any real room for manoeuvre.

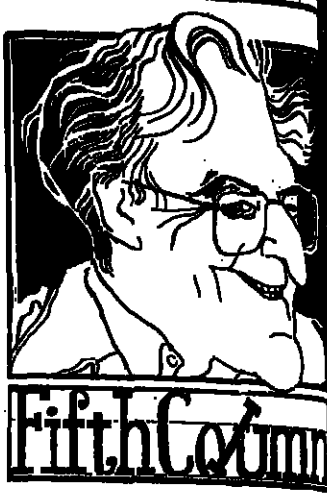
The Polytechnic of Wales, in particular, suffered from this approach and seems likely to do so again if the WAB is given a completely clean bill of health in the review.

It is all a matter of the size of the system. There are fewer than 13,000 students and some 2,000 of them are on teacher education courses, where the WAB's role is more marginal than in other sectors.

institutions have fewer than a dozen higher education places.

The uncomfortable but unavoidable conclusion is that the WAB, with only two full-time staff, is closer to a regional advisory council in scale than a national planning organization. It would be a backward step, as Mr Edwards obviously realizes, to undo such a young attempt at devolution, but some thought should be given to creating a sensible planning unit. One solution would be to feed the WAB's decisions into the NAB.

However, if national pride would not permit such a course, there is another option worthy of Mr Edwards' consideration, which could make Wales the pioneer in higher education planning rather than simply a mirror of English practice. That would be to create a transitory body, adding the University of Wales' 20,000 students and creating a genuinely national system. There will never be a better opportunity for a real examination of the options for Welsh higher education.



Fifth Column

A few years ago I found myself sitting beside a well known vice-chancellor listening to a lecture by a recognized educationalist who had an exceptional command of all the lullable that could possibly be used in discussing education. His talk was spattered with them mercilessly; they were obviously part of the *lingua franca* of the educational world. After half an hour or so I scribbled a message to the vice-chancellor which led to an exchange of notes roughly as follows:

PN: Have you any idea what this lecture is about?
VC: None whatsoever.
PN: In that case how ever did you become a vice-chancellor?

VC: Total ignorance of education is the first requirement in a vice-chancellor.

I found myself thinking of the happy exchange as I watched the celebrated Dimbleby lecture given on television by Baroness Worsley under the title "Teacher Teach Thyself". Not because I was bemused or baffled by the language or the content; the very opposite — I felt that I had heard every bit of it before. If I had scribbled a note to the VC I must have asked if he had learned anything new.

Could it be, I wondered with a kind of panic, that I have now heard everything it is possible to say about education? Or worse, could it be that there is nothing new to say? Was it time for me to retire, spent and disillusioned?

The audience in the Royal Society of Arts' handsome lecture hall looked, I thought, as bemused as I felt — a handful of BBC mandarins and some solid citizens whose glass expressions suggested that they had lived through this kind of thing many times before. There was a half place of light-headedness at one point and the audience nearly collapsed laughing.

Perhaps the problem was that Lady Warnock's case was so sensible that hearing it said could only be a surprise. Essentially her case was that teachers should be more professional, accepting responsibility for their own condition and displaying confidence in themselves. That would show in their relationship with the parents.

There are, it seems, two kinds of parent — the pushy and the laithrent. The pushy parents have a habit of pushing; the laithrent parents tend to be indifferent. That was not very surprising; what was more notable was that teachers should be more authoritative with parents and not allow themselves to be pushed around by them. A school is, after all, an educational institution with its own ethos of its own.

Lady Warnock's recommendations added up to a coherent package. There should be a General Teaching Council to set professional standards (not a new idea but a very sound one); teachers should be treated more as professionals by practicing teachers (especially sound and sometimes doing the profession should set its own standards for assessment (like any profession worthy of the name); and there should be more money for the teachers. Not for all, just for the senior members. Increasing the differentials. The senior members present seemed to agree.

It all seemed a world away from the comprehensive schools of the 1960s and a system of education in which only a minority will go anywhere near a higher education. Perhaps that was what made it refreshing. We all need to re-examine our innocence.

Patrick Nuttgren

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Bank-you fans: Middlesex Polytechnic fashion and design student Sarah Hartley, who won a £75 award from the Worshipful Company of Fan Makers for the best fan-work in British Fashion Week's Designer show.

Ombudsman proposed

Polytechnic directors have pledged to hold a united front on validation, proposing their own external examiner and ombudsman system to forestall the predicted selectivity of the Lindop report.

Members of the Committee of Directors of Polytechnics at their annual conference in Portsmouth agreed a proposal that all polytechnics should be subject to the same kind of validation. The agreement contrasts with the proposals understood to be recommended by Sir Norman Lindop's inquiry into public sector degree validation.

The Lindop committee, whose report is now on the desk of the Secretary of State for Education, Sir Keith Joseph, said some polytechnics should be given quasi-university freedom but others should not. Dr Harry Law, chairman of the CDE, said of the proposals: "We think it is the most unfortunate if the committee's inquiry were to reach a conclusion which would differentiate between polytechnics. We see no valid reason for discrimination between polytechnics at all in validation."

The polytechnics were to achieve validation by a move towards full validation was critical, he said. That was behind proposals the CDP had approved and was putting to the Government for a new external examiner system and "long-stop" ombudsman.

The external examiner system would have more safeguards than the current one operated by both universities and the public sector. Polytechnics would draw up a list of approved external examiners, whose names would be published annually and whose academic credibility could thus be checked. All examiners would have to be drawn from that list, and no degree would be validated which did not use the list.

Commonwealth scheme sidesteps fees furore

by John O'Leary

An innovative scheme to bring more Commonwealth students to Britain is under consideration at the Overseas Development Administration. If accepted it could reduce international pressure on the Government to rethink its overseas fees policy.

The scheme, which has the personal support of Mr Timothy Raison, Minister for Overseas Development, would cover private students only and might be limited to Commonwealth countries, which have been the most vocal opponents of full-cost fees.

Mr Peter Brooke, under-secretary for higher education, is due to report back to Commonwealth education ministers at the start of the Unesco general conference in Sofia in October. He is likely to have little else to offer his colleagues as a result of the promised review of fees policy.

The new scheme would represent a departure from existing practice in a number of ways:

- It would not be open to students sponsored by their own governments and would be expected to embrace some students regarded as dissidents in their homelands.
- Selection would be in the hands of the receiving university or polytechnic.
- The scheme would be jointly funded by the ODA, which would provide half the money, and the institutions, which

would be expected to raise private money to ease the burden on their finances.

Several hundred students would be involved initially, at an annual cost of perhaps £3 million to the ODA, which would administer the scheme itself.

The initiative was first put forward within the ODA last year but was a casualty of the cuts in the aid budget which resulted from the Government's reduced spending plans for the Foreign Office. It is now back under discussion but could not be introduced before 1986/87 at the earliest. A more wide-ranging initiative has been put forward by the Commonwealth Secretariat but is less likely to find favour with the Government. This would revert to charging home fees for all Commonwealth postgraduates and would therefore be more costly. The secretariat has estimated that the change could cost less than £10 million as long as it did not result in greatly increased demand for places.

Some pressure will be taken off Mr Brooke at the October meeting by Australia's decision to raise overseas fees substantially for all but a set number of sponsored students. But Britain will remain the focus of much of the criticism from developing countries if the review produces no changes. Unless the ODA scheme goes ahead, Mr Brooke will be able to offer nothing more than a partial extension of the so-called Pym package of targeted support schemes.

Training cuts revealed

A third college and two polytechnic education departments will close if proposals made by the National Advisory Body are accepted. The cuts in teacher training revealed proposals for at least five complete withdrawals of allocations from 1986 onwards. In addition to the College of St Mark and St John, Plymouth, and Hertfordshire College of Higher Education, North Riding College of Education, Portsmouth and North London Polytechnics are recommended to cease training.

Other colleges and polytechnics receive large increases in their targets. The cuts in teacher training revealed proposals for at least five complete withdrawals of allocations from 1986 onwards. In addition to the College of St Mark and St John, Plymouth, and Hertfordshire College of Higher Education, North Riding College of Education, Portsmouth and North London Polytechnics are recommended to cease training.

At least one college, Bedford College of Higher Education, will be asked to start a new Postgraduate Certificate in Education, course, as well as boosting its BEd recruitment. Its teacher training numbers would rise by more than 50 per cent over the four-year period covered in the new NAB proposals.

Those recommended to half recruitment to their initial teacher training courses have suffered for their small numbers. On teaching, a report of the committee's meeting with college governors said: "All members of staff involved in

teaching should be competent at the task. The committee doubted if this was sufficiently recognized by staff at Imperial and it might have some influence on its ability to attract the best students."

On the library facilities, it added: "As a general rule expenditure on salaries and on books should be roughly in balance, but here expenditure on salaries appeared to be disproportionately high. The college ought to review the position as a matter of urgency."

It was difficult to compare the institutional distinction of Imperial with that of the MIT, but there were some activities which the MIT could be said to take more seriously than Imperial, such as continuing education, short crash courses for industry and technology transfer. On the positive side, the committee congratulated the college on its resource commitment to engineering, its promotion of new developments in modern electronics and noted the very high level of sponsorship which the college had succeeded in obtaining from industry. It was also impressed by the student representatives it met.

On research, the report said that supervisors might be concentrating more on the advancement of knowledge than on providing research training for students, and that the college was "perhaps expecting too much of its students".

On teaching, a report of the committee's meeting with college governors said: "All members of staff involved in

Poly governors protest to Brooke over yawning funding gap

Capital expenditure in 1985/86 will be £5 million for the public sector and £12 million for the universities. The figures show inadequate resourcing of polytechnics and discrimination between them and other institutions, the letter says. "This in turn has to be seen against a backdrop of reports from all polytechnics of a grave undermining of academic provision in their institutions and quite genuine fears that they will not be able to maintain even the current threshold levels of academic quality if the proposed resource levels are not substantially increased," the letter says.

It is signed by the chairmen of governors of Brighton, Coventry, City of London, Hatfield, Huddersfield, Lancashire, Leicester, Liverpool, Loughborough, Newcastle, North East London, Portsmouth, North Staffordshire, Sheffield, South Bank, Sunderland, Trent and Wolverhampton polytechnics.

The figures are supported by an unpublished study of the unit of resources by the Council for National Academic Awards. The study breaks down the differences in spending per student in non-medical universities (since these have more comparable costs with polytechnics) and polytechnics.

The figures refer to 1981/82, and are taken from University Grants Committee's Committee of Directors of Polytechnics and polytechnic finance officers' figures. All the figures are weighted for full-time equivalent students.

The figures show that the smallest proportionate differential between the two sectors is in the spending on



Reflecting on teachers, 11

DON'S DIARY

MONDAY

It's 2am and there's that noise again. A scrabbling, scratching sound outside my window. I don't want to leave my warm bed, but my alarm grows. Finally, I get up and cautiously open the curtains.

There is an old woman, dressed completely in black, lying in the centre of the road. Silent. Still. Abruptly, she starts to scrub at the road with a huge brush. After a few moments she pauses and stares critically at the spot. It's OK, apparently. She crawls a few feet to a second invisible mark and resumes her scrubbing. She is splendidly dogged, determined, it seems, to make the neighbourhood a cleaner and lovelier place. Nevertheless, the eccentricities of my neighbour, especially in the middle of the night, have long since ceased to divert me. With a curse of frustration I return to bed, reflecting with grim satisfaction that I shall have to humour her for much longer.

TUESDAY

Eleven years in Canada. Now, in six days, I return to England. The move is having a most beneficial effect on my filing cabinets. A morning's critical sorting reveals a whole host of worth of valueless hoarded notes. In fact, the quantity of superfluous paperwork is so embarrassingly huge, I dare not stack it in the corridors for the cleaners for fear of the likes of my colleagues. Instead, I pile it on a trolley and surreptitiously wheel it to a bin in the basement.

Rediscovered among the papers is a report written completely in verse by a former student. Not only is the English inventive, but the chemistry is excellent. I pick the report, somewhat bemused by my unwise attempt to pen a criticism on it in sonnet form, along with other papers deemed essential for the trip to England.

WEDNESDAY

A curiously-decorated container appears outside our house. The movers are here to pack our belongings for the trip. As they struggle through the front door with the piano, I amble over to inspect the container. The orange decorations are not plain, as I had naïvely thought, but rust. How can such a container stand up to a four-week sea voyage, I ask? The packers shake their heads wisely, assure me they have seen far worse - and in any case, aren't I insured? (I am - and just as well, for when the container reaches England, I will discover a little of the Atlantic sloshing around among ruined books and furniture.)

THURSDAY

The mail brings another request that cannot be met for our chemistry road show. Money is short in Canada too, and the show we've taken to hundreds of locations in North America has been cut back. Yet requests for visits continue, the more so since shows last year at the Pacific Science Center in Seattle were broadcast on American television. Our notoriety grew hugely when the Seattle police dropped by for a chat - our explanations had triggered the centre's burglar alarm system.

Is Oxford too small for such shows? Would it be sacrilegious there to present science as an entertainment? I make a mental note to include a few explosions in my first session.

I leave behind my regrets about the show for lunch with my wife by the sea. We share the restaurant with two people who, we soon discover, have just returned from a sabbatical in Oxford. Much exchange of addresses follows. We agree that Sainsbury's hazelnut yoghurt and bottles of milk with cream on top will help smooth the transition from a North American lifestyle.

Disconcerted to discover we've taken four hours over lunch, I sneak into the university against the tide of people leaving, and work into the night.

FRIDAY

A final lunch in the chemistry department. My usual garrulous nature comes unstuck on seeing so many faces I might never see again and I make a short, feeble speech. In the evening I'm sick and miserable. I can't understand that I should be sad and frightened about going to Oxford to teach - I must have been too long in one place.

SATURDAY

A sparkling, invigorating morning. We board the ferry to Vancouver with a feeling of exhilaration and excitement in complete contrast to last night's depression. The ferry trip is a delight, a 90-minute cruise by forested islands, through rocky inlets. Decide to ask the directors of Seaspeed if they've studied B. C. Ferries. Ferries dock, unload 400 cars and 1,000 passengers, load the same number of cars and passengers and leave, all within 20 minutes. Not the way I remember it at Dover.

In Vancouver we wander from friend to friend, by turns despondent at leaving Canada, euphoric at returning "home" to England. Spend the evening with a UBC professor whose envy at my moving to live near Blackwell's is considerable. Blackwell's is, he assures me, a "Three Thomas Pynchon" bookshop (the ultimate), a rating determined by the likely number of Pynchon books to be found therein. After I admit my total ignorance of any of Mr Pynchon's three books, the conversation dies suddenly and I retreat to bed.

Perhaps in subconscious irritation at my lack of literary savoir faire, I demolish the bedroom window by pushing it too hard. Nobody downstairs hears, so I prop the remains in place and ponder how to explain the damage in the morning.

SUNDAY

Another perfect morning. I creep out of bed while all else sleeps, and leave the house (perhaps I can escape entirely difficult explanations about the window). The joggers are already out, but otherwise Vancouver is asleep. I sit by the harbour as the sky begins to glow.

Back at the house, the broken window has been discovered, but everyone seems in a forgiving mood. Maybe they're just pleased to be seeing the back of me.

MONDAY

Away at last. Last time I flew with the admirable Wardair, we saw sheets after sheet of the Northern Lights. This time they give us a magical display of lightning over Hudson's Bay. My five-year-old daughter and I are treated as a hundred flashes in a minute flicker soundlessly through mountains of cloud below us. My wife, whose hatred of thunderstorms is surpassed only by her fear of flying, sits white-knuckled beside us, counting the minutes to Gatwick.

I manage to fall asleep just in time to be woken for breakfast. Then we are back in England surrounded by English scenery, English weather and English attitudes. There are no soap operas in the look at Gatwick and we realise with a sudden rush of nostalgia that whatever else changes, England is always the same.

Hugh Cartwright

He studied physics in the physical chemistry lab, Oxford University.

Letters to the editor

Making a central point

Sir, - While agreeing with many of the points attributed to Dr Ryan in the report by Olga Wojtas of "Where the central institutions are going wrong" (THESE, March 29) there are some that should not pass unchallenged. The most misleading and wholly inaccurate of them concerns the level of funding which, allegedly, is higher than that of any other higher education sector. Would that it were so. Sadly, according to the Scottish Education Department's own figures, the unit cost of central institutions in 1982/83 was less than two thirds that of the Scottish universities, despite the harshness of the much publicised cuts that the latter sector had suffered in previous years.

It is more difficult to speak with confidence about how academic processes differ across the sectors of higher education. If, as I believe, the focus is about the development of human beings, and the selection and presentation of knowledge and experiences are the means by which this development is attempted, then, as Dr Ryan claims, the various sectors use essentially the same process - that is, they select and present knowledge and

experiences - for bringing about the desired development.

In central institutions this selection is done as a team exercise and considerable thought is given to the techniques of presentation because of their effect on the process of learning. Such is the importance given to the selection that, through the system of course validation, its relevance is regularly tested by external peers comprising both academics and industrialists. In contrast, selection in the university sector may often be left to individuals who are employed for their research skills and who seem fearful of external group assessment of their work as educators, as distinct from that of their research.

There is nothing spurious about the quality of the awards achieved in central institutions, nor of the processes involved in designing and ensuring the continuing relevance of their courses. They only doubt lies in the level of funding.

Nor can the comparison of promotion criteria of central institutions and universities be allowed to pass unremarked. In universities, heads of de-

partment may be promoted for the academic standing, that is, for the success in research. This is not the same as being a successful educator. In central institutions, heads are appointed as leaders of a team of educators. Their knowledge of course design, of teaching skills, of research management, of man management and of caring for students are factors that are taken into account at the time of appointment. Dr Ryan is right to say they stand at the crossroads point between teachers and managers - they are the managers of the students' learning process and an expertise in research alone cannot be regarded as an adequate foundation for such an exacting post.

Notwithstanding these comments, Dr Ryan's report has much of value and merits the close attention of all concerned with higher education.

Yours sincerely,
D. A. KENNEDY,
Vice-principal of Dundee College of Technology and ex-chairman of Dr Desmond Ryan's advisory committee on central institutions.

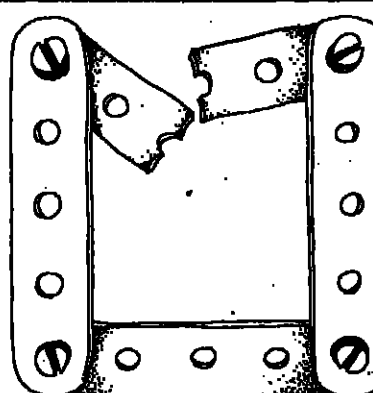
Peer review

Sir, - Further to your article on peer review on materials science (THESE, February 8) which mentions the level of external funding and research grants in materials science, your article says: "Oxford is the leader in terms of external funding and research grants, with £2.5 million in the last three years. Cambridge followed with £2.13 million."

Perhaps your readers should know that over the same period, the external funding of the materials section within the school of industrial science at Cranfield was £3.4 million.

The Cranfield figure refers to the external funding earned in the three-year period from 1981 to 1984 by the materials section within the school of industrial science. The calculation uses real income per year, for example a three-year research award totalling £30,000 granted in 1983 would be included as an income of £10,000 for the time period in question. The total amount of all the grants awarded over this period would be considerably higher.

We spend a good deal of effort in



developing our industrial links and are justifiably proud of the level of external funds we continue to attract in the field of materials science and engineering. It seems a pity, therefore, that this activity was not recognized in your review.

Yours faithfully,
P. HANCOCK,
Head of school of industrial science,
Cranfield Institute of Technology.

Manager studies

Sir, - It is a pity that your recent review of management education (THESE, March 29), amid much talk of "needs" and "relevance" made no mention of the student of management education vehicles: the Diploma in Management Studies.

For most people in this country progression into managerial positions is still via some functional responsibility. For these people, the need to acquire the skills to deal with the new

set of administrative and human problems they face is not normally met by MBA programmes. Their basic grounding in managerial skills is provided by part-time DMS courses.

Perhaps increasing the availability of this more basic provision would have more economic and social utility than increasing the annual output of MBA holders.

Yours faithfully,
PETER RHODES,
Department of business management,
Sunderland Polytechnic.

SDP coverage

Sir, - I read with interest your report on the recent National Union of Students' executive elections (THESE, April 5). It was comprehensive, apart from one, notable omission - that, despite concerted Labour students' attempts to prevent us, to the extent of preprinting a leaflet telling delegates not to vote for "The SDP or the

soggy centre", David Amos, the Social Democratic Party students' candidate, was easily elected to the executive. I do hope that neither Mr Jobbins nor your journal are joining the increasing numbers in the media who deny the SDP its rightful coverage.

Yours with concern,
CHRIS HOPSON,
National secretary,
Social Democratic Party Students.

Unit costs

Sir, - I work in Bristol Polytechnic where Karen Gold's article (THESE, March 22) shows unit costs in 1983/84 of £2,657, the lowest for any polytechnic except Wales and Birmingham. To put this into perspective, the 13 more expensive polytechnics have unit costs over £3,000. (I do not wish to suggest their costs are high.)

This large vocational department has about 500 full-time equivalent students and a very wide range of diploma, degree (first class) and National Academic Awards (honours

courses); postgraduate research, continuing and mid-career education; industrial placements (for staff and students) and short course activities. The present student-staff ratio is around 11:1. If the recent National Advisory Body proposals are implemented it will go to around 13:1.

May we wonder either, where we have gone wrong, or whether the new breed of educational accountants, of whom we appear to be the playing, have any idea of what they are doing?

Yours sincerely,
TIM STAPLETON,
Department of Surveying,
Bristol Polytechnic.

Course cut

Sir, - As the person responsible for the proposed German language course at the Open University, I was totally mystified by the report in your issue of March 29 to the effect that the university students' association (OUSA) had "thwarted plans to introduce a home microcomputer into an introduction to German course."

What has actually happened is quite different and much more serious. At its meeting on March 8 the university course development committee reluctantly decided that the course could not go ahead at all as a result of the imposed upon the university by the present government.

It is true that the course intended to make use of computer-assisted language learning and that another recent decision by the university that students would in future have to buy their micro rather than receive them as home experimental kits from the university (as we originally intended) might well have aroused the student ire, but it never came to that because, as I have indicated, the entire course was axed.

Another reason altogether. OUSA has, in fact, always been very keen to see languages taught by the university and will no doubt be as disappointed at what has happened as I am.

As for your additional comment that microcomputers are still to be used in French course, I must point out that plans for such a course are in infancy and the question of using computers has not even been discussed.

Yours faithfully,
GEOFFREY WARNER,
Professor of European Humanities,
The Open University.

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Monkey research 'must end'

by Olga Wojtas
Scottish Correspondent

The Scottish Anti-Vivisection Society is asking the Government to intervene and controversial research between Glasgow and Pennsylvania universities involving brain damage to monkeys.

The society revealed last week that a Pennsylvania law professor, formerly professor of civil law at Glasgow, has written to Glasgow's principal, warning that he believes there has been a cover-up at Pennsylvania over the research and that Glasgow risks tarnishing its reputation.

The society has now sent a copy of Professor Alan Watson's letter to Mr David Mellor, Home Office under-secretary of state, asking the Government to urge the axing of funds to Glasgow's department of neuropathology, which is involved in the research.

In January, Mr Mellor was reported to have said at a meeting of the Royal Society of Medicine that he had seen a videotape of the experiments in Pennsylvania and was horrified, especially by the callous attitudes of some of the researchers.

Mr George Younger, Secretary of State for Scotland, has also said that the experiments, which subject monkeys and baboons to considerable pressure to create brain damage, would not be permitted in Britain. The society has asked Mr Mellor to push for an end to the department's funding. "In a bid to show Glasgow University that they cannot continue to flout British law by taking part in research in the USA which would not be licensed in this country," it said.

The Home Office has said it cannot comment until Mr Mellor returns from his current visit to North America.

The neuropathology department received no British funding for the collaborative research in which it is sent frozen brains of monkeys from Pennsylvania. Its work is part of a wide research programme funded by the US National Institute of Health.

The Scottish Anti-Vivisection Society has also revealed another letter from Pennsylvania, from Professor Gary Francione of the law school to Professor Bryan Jennett, dean of Glasgow's medical faculty.

Professor Francione claims that Professor Jennett is mistaken in statements he has made to Professor Pat Wall, editor of an American medical journal, on the protocol governing the anaesthetizing of the animals.

Professor Jennett has said that the Society for Neuro Science conducted an independent inspection of the Pennsylvania laboratories and found nothing untoward. But Professor Francione says the investigators never saw the video and documents which form the basis for allegations.

Nelder Professor Jennett, Glasgow's principal, Sir A. For Williams, was available for comment, but Glasgow official said the question of anaesthetizing the animals had been investigated very deeply by an ad hoc committee chaired by Professor Jennett and including the university's senior professor of anaesthesia. The university courts had backed its conclusion that Pennsylvania was adhering to the experimental protocol.

Final meeting?

Glasgow University's Graduate Association, founded in 1948 was this week holding a special meeting to decide whether it should disband. The association's chairman Dr Robert Hutchison, said dwindling membership, currently some 2,000, could not be expected to bear increasing costs.

Civil Service seeks outside training

by Felicity Jones

The Civil Service is looking outside its own training establishments to university independent business and management schools to spend its £200 million training budget.

It is approaching outside agencies to offer the drive to increase the efficiency and to get some fast training in the new technologies.

The Civil Service, the Ministry of Defence, the

Medical cash cuts restored

by Jon Turney
Science Correspondent

The Medical Research Council has started to expand its spending on its own units and institutes after last year's budget crisis. It has restored some money cut for laboratory supplies and decided against closing the Mineral Metabolism Unit in Leeds.

And the council has announced it will go ahead with a new unit for molecular neurobiology in Cambridge, one of four initiatives that MRC secretary Sir James Gowans said could be threatened by lack of funds.

Last spring, the council suddenly trimmed £2.2 million from the money units received for running expenses, to balance its books for 1984/85. This meant an average 16 per cent cut, or 21 per cent allowing for inflation.

Unit directors have just received their budgets for the coming year, which confirms that £1.2 million has been restored to the units for supplies. As before, the changes have been made highly selective.

Among the larger establishments, the Laboratory of Molecular Biology in Cambridge only suffered a 5 per cent cut in its supplies budget last year, and now has a 15 per cent increase for 1985/86. It also receives £400,000 for new capital equipment, including a

new electron microscope and new computing equipment, from a new allocation of £1.8 million for high-priority items.

The laboratory is still the MRC flagship, and needs to buy new instruments to keep up with the international competition in the field, as well as many chemicals from the United States in dollars.

The National Institute for Medical Research at Mill Hill faces similar demands, but receives only around 5 per cent extra this year after a 9 per cent cut last year. The director, Dr Dai Rees faces special problems finding capital equipment for new research groups, and has set a target of £200,000 to be saved by freezing vacant posts.

Other large units which have done better than the average include the Dunn Nutrition Unit in Cambridge, which receives an 11.5 per cent increase for supplies this year, and the Virology Unit in Glasgow.

The Toxicology Unit in Surrey benefits from the new capital allocation with £350,000 for a new mass spectrometer, though its budget for normal supplies just keeps pace with inflation. Other units generally receive an increase in line with inflation for 1985/86, regardless of the size of their cut last year. They include the Radiobiology Unit at Harwell, which had no cut in

1984, and the Clinical Research Centre in Harrow, which bore the full 16 per cent cut.

Elsewhere, the council has just advertised for a new director for the Mineral Metabolism Unit in Leeds, in spite of a recommendation from its physiological systems and disorders board that the unit should close when the present director retires. The MRC has undertaken to head-hunt a director if no suitable candidates respond.

The MRC is also going ahead with a new unit for molecular neurobiology, using the laboratories of the neurochemical pharmacology unit in Cambridge, which closed last year. The unit will be run by Professor Eric Barnard, and partly funded by running down Professor Barnard's existing group at Imperial College, London.

This and the closure of the old unit in Cambridge will free around £345,000 and the council is putting in £117,000 of new money for equipment.

The MRC is also developing plans for a new centre for application of molecular biology to medicine in Oxford, and expects to attract some support for it from a charitable trust later this year. The Wellcome Trust is also about to award £500,000 for other work in this area, which is now set for a major expansion in Britain.

Agency loses YTS contract

The Manpower Services Commission has severed its links with a firm responsible for 1,000 young people on the Youth Training Scheme because of the company's financial difficulties.

But Scotland's largest teaching union, the Educational Institute of Scotland, claims the firm, a managing agent for the YTS, should have been suspended by the MSC over a year ago.

The company, KBS Manpower, was responsible for 18 YTS schemes throughout Britain. Its MSC contracts were abrogated from April 1 after it was found to be in arrears with payments to a number of trainees.

Last year there were problems with the firm's only Scottish contract in Grangemouth, and Central Region's careers services warned the MSC that over half the trainees had not been given job placements after their initial training. A new system was then introduced ensuring that trainees were not taken on unless a placement had been found.

But Mr Arthur Houston, further education officer of the EIS, said this week that the decision to strike off KBS should have been taken when the union first drew attention to the Grangemouth Scheme.

"The MSC is understaffed, and unable to carry out sufficient checks to ensure that managing agencies are doing what they claim in their submission. This further draws attention to the total inadequacy of relying too heavily on the private sector, where scrutiny is lax," he said.

However the MSC in Scotland said there was no link between the difficulties in Grangemouth and ending the contracts. The MSC had been involved with KBS for nine years in a number of schemes and never had any real problems.

An official said: "The firm's difficulties as far as we're aware occurred as recently as a few weeks ago. It came as a bit of a surprise."

All the firm's trainees were offered alternative placements within days and the MSC had paid allowances which were in arrears.

KBS, which offered training in a wide range of occupations, but was biased towards new technology, received annual total funding of £2 million.

The MSC is aware of only around four schemes having to be closed because the managing agent was in financial difficulties. The commission has a "thorough procedure" for investigating agencies' finances if the MSC has reason for concern.

Leader, back page



Dr Basil Weedon, vice chancellor of Nottingham University negotiates the steps of the student union in a wheelchair, assisted by welfare officer Peter Addison. Dr Weedon, who is not disabled, was taking part in a students' awareness project. Able-bodied students took to wheelchairs, wore blindfolds or ear muffs to try to understand some of the problems of handicapped people. They also raised money for a new mini-bus for welfare activities.

Cambridge tutors keep list secret

Senior tutors of Cambridge colleges have refused to release a list of "target schools", which do not normally send candidates to Cambridge, to the university's student union.

The students want the list so they can send volunteers to visit the schools, to encourage them to apply to Cambridge and remove some of the mystique surrounding the university's complex admissions procedure.

But a meeting of Cambridge's tutorial representatives, consisting of all the colleges' senior tutors, refused to release the list, fearing the results of any unwelcome publicity it might be given.

Mr Mark Cooke, the union's officer responsible for the target schools scheme, said the list would be used only for internal purposes, and condemned the tutors' lack of trust.

Mr Chris Thornton, the union's president, said: "One thing this does show clearly is how much valuable student projects suffer because of the absence of student representation on powerful inter-collegiate bodies such as the tutorial representatives or the bursars' committee."

Day visits have already been made to the Temple College, the Oxford School of Management Studies, the London and Manchester business schools, Aston's Centre for Extension Studies, and business colleges like Roffey Park and Sundridge Park management centres. There are also plans to visit Cranfield School of Management, Ashridge and Henley management colleges.

Department training directors, responsible for training 400,000 civil servants, will draw up contracts with the schools for places on existing courses or for the tailor-made provision.

The service wants to carry out much more on-the-job distance learning training. Both Henley Distance Learning and the Open University have held two seminars and their managers packed

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ANTI-THESES

Off form at Cheltenham

Much excitement in Cheltenham as the Polytechnic Central Admissions Scheme office prepared to take delivery of 400,000 application forms to be sent to the first central applicants. PCAS chief executive Tony Higgins even came in at 7.30am.

So he was there to open the box and discover that the forms had been printed the wrong way round and all the pages were in the wrong order. The consequent initiative test might prove a little too much for candidates in the early years of the scheme. Mr Higgins decided. The entire batch will be pulped and reprinted.

Could Glasgow School of Art end up in the dock? A convicted murderer from the special unit of Glasgow's Barlinnie Prison was deposited by prison van apparently unaware that the school was closed for the Easter break. The prisoner returned to Barlinnie after nine hours. Presumably spent trying to find an open door.

The wilt alternative

A small forest is sprouting in the Oxford Polytechnic quadrangle, courtesy of Mr Peter Brooke. The under-secretary of state for higher education was booked to plant a ceremonial sapling there on a visit to the poly. But the visit has been planned - and cancelled - twice.

On both occasions, a tree had already been bought, so rather than leave it willing first local MP Steve Norris and then the poly's director Brian Tonge stepped in with the sapling. Many more cancellations and Mr Brooke may be asked, when he does come, to call in at the garden centre on the way.

Nowhere was there more irritation at Sir Keith Joseph's vacillation over the latest teacher training targets than at the National Advisory Body. Twice the timetable had to be put back because the new figures had not been agreed. So why did the NAB wait an extra day before sending out its proposals to the colleges? The answer lies by the date which would otherwise have appeared on the letters... April 1.

Prescription for writing

Aberdeen University's Senate split down the middle recently over whether students whose essayscripts were illegible must pay for them to be typed. At present examiners accept all hieroglyphs provided. Social scientists argued that students should pay for retyping, because for social workers legible handwriting was a necessary professional skill. The traditionalists opposed them, saying part of the university's job was to teach people how to write, before they reached their final.

Principal George McNicol had the casting vote. He voted against and the proposal failed. Professor McNicol's own discipline, not known for turning out expert calligraphers, is medicine.

Summing up

And a consolatory note for Mid-dlesex Poly director Dr Ray Rickett, whose indefatigable pursuit of the differential between polytechnic and university student costs has finally been vindicated. Civil servants at the Department of Education and Science have coined a new term for acts of embarrassing figures which they say are "wrong in detail but right in substance". Mr Rickett is flattered.

Tory students' damage put at £1,500

Damage estimated at £1,500 was caused by right-wing Tory students after a rowdy party during their annual conference last week at Loughborough University despite claims that the disturbance "had been greatly exaggerated".

Mr Murray King, director of works at Loughborough, confirmed this week that doors had been kicked in, door and light fittings broken, windows smashed, benches damaged. With the costs of shampooing vomit off carpet and cleaning excrement off shower cubicles the total cost would be £1,500.

This contrasts strongly with claims from the new leadership of the Federation of Conservative Students that the bill for the damage was just £14. Mr Mark MacGregor, the chairman, a "radical Thatcherite" said it was all a plot by "Tonsound" to discredit the handliners.

Mr MacGregor also roundly criticized Mr John Selwyn Gummer, the Conservative Party chairman, who last week announced an internal inquiry into the federation and cut off its £30,000 a year grant for at least three months.

After receiving reports of the behaviour of delegates Mr Gummer told the conference: "Damage, hooliganism, and sheer vandalism were totally unacceptable." After he left the hall delegates chanted "bring back Cecil" (Mr Cecil Parkinson, previous chairman).

The FCS confirmed that the former party vice chairman, Mr Alan Howarth MP, would be carrying out an inquiry into the events at Loughborough.

Plans to broaden the political base of



Tory students protested with towels whenever a "wet" got up to speak at Loughborough

the Federation of Conservative Students and dilute the power of the ruling liberation faction have now assumed a new and more urgent significance.

Mr Gummer's determination that the party should not be seen as soft on unruly elements within its own ranks gave a sharper edge to his scheduled announcement of an expansion of FCS ready for the autumn recruiting drive.

The party is to extend the year-long "Operation Grassroots" from the constituency parties and Young Conservatives into the colleges and universities. It aims to train volunteer activists and ensure that no university or college lacks an FCS branch by the

autumn. Party leaders hope that by revitalising the FCS structures, middle of the road students deterred by the image of an extreme right leadership will be attracted to join.

By broadening the political base and ensuring that organizational and structural decisions are not made on factional grounds they hope to mend the internecine warfare of the last six years.

Mr Gummer told the conference: "These FCS branches will be Conservative branches not the private prerequisite of some sections of the Tory party".

The plans are to be discussed with

the new leadership. It seems highly likely that national residential conferences may be scrapped.

Mr Gummer's announcement and his plans for tolerance were gleefully greeted by leftwing and "party faction" delegates but the vast mass of libertarians remained sullenly indifferent.

Mrs Edwina Currie, MP for South Derbyshire, paid the price for recommending that Conservative students should operate within their unions and the National Union of Students who she was voted out of the office of vice president.

Leader, back page

Science switch 'needs full £100m'

by Karen Gold

The Engineering Council's director general this week called on the Government to allocate the full £100 million a year the council has recommended to carry out a 10 per cent switch to science and engineering.

The full sum was needed in order to improve staff: student ratios, particularly in the polytechnics, to between 8:1 and 1:1, said Dr Kenneth Miller. But although the council wanted money to go to the polytechnics to improve those ratios, it would not press for any of the £43 million over three years announced by the Government to go to the public sector.

The Engineering Council has been credited with advice to the Government that the money should go to the universities. Dr Miller explained why the paper containing that advice was written. "It became clear to us that the

polytechnics were already doing that (the switch) but the universities weren't," he said.

"The polytechnics are now suffering from having done the switch without insisting on having the money. We are still pressing the Government to make resources available for engineering and to safeguard the unit of resource."

The Committee of Directors of Polytechnics has protested formally to the Government over their apparent exclusion from extra science and engineering funding.

The allocation of £43 million over three years for science and engineering places is still the subject of vigorous behind-the-scenes negotiation. But with the naming of 20 universities which will benefit from the first £3 million, 500 places of the scheme, the polytechnics have been left bidding only for the second phase.

The CDP's annual conference at Portsmouth protested to Mr Peter Brooke, under-secretary of state for higher education, when he addressed them. The exchange was fairly forcible, according to Dr Harry Law, the CDP's chairman.

Unless a substantial proportion of the remaining unallocated £20 million was given to the polytechnics, it would be interpreted that the public sector had done itself a disservice by switching 10 per cent of places to science and technology as the Government wanted, without extra money, he added.

Sir Keith Joseph, Secretary of State for Education and Science, announced in the House of Commons that the first phase of £43 million would fund 475 undergraduate and 104 post graduate places in 20 universities. Allocations for the second phase will be announced during the summer.

PERSPICUE FRAUDEN



WELL IT'S A LOT MORE FUN THAN 'MAGISTER MENS!'

A further Latin primer

This week saw the 10th anniversary of an unusual joint initiative between Glasgow University's humanity department and Strathclyde Regent's classics advisers.

Since 1975 senior pupils from Strathclyde schools have undergone a course of rapid Latin reading conducted by tutors from the university, local schools and its advisers.

This year 36 pupils have been savouring the joys of Latin poetry and prose, from Cicero and Catullus to medieval Latin lyrics. They have also enjoyed such diversions as "How to interpret simple Latin inscriptions" a play reading of Plautus' "haunted house," and the elegantly named game "perspicue frauden" better known as "Call my bluff".

Strathclyde in college transfer deadlock with SED

by Olga Wojtas

Scottish Correspondent

Strathclyde Regional Council is locked in battle with the Scottish Education Department over the transfer of Glasgow College of Technology.

The region has been incensed by SED proposals that when the college becomes a central institution this autumn, the chairman of its governing body should be appointed by the Secretary of State for Scotland instead of being elected.

Strathclyde has also been angered by proposed reductions in the number of council and trade union representatives, with a concomitant increase of governors from business and com-

It has told the SED it does not accept the proposed governing body, preventing the college being designated a central institution. Strathclyde has already agreed that the college will be transferred on September 1, which it cannot now stop, but if the changeover is to be smooth, it is vital that the new board of governors be appointed as soon as possible.

The present college council is unable to deal with the transfer of the transfer in particular the appointment of administrative and academic staff for the coming session.

The SED will only comment that consultations on the proposed governing body are still taking place, but there is known to be considerable concern over the deadlock.

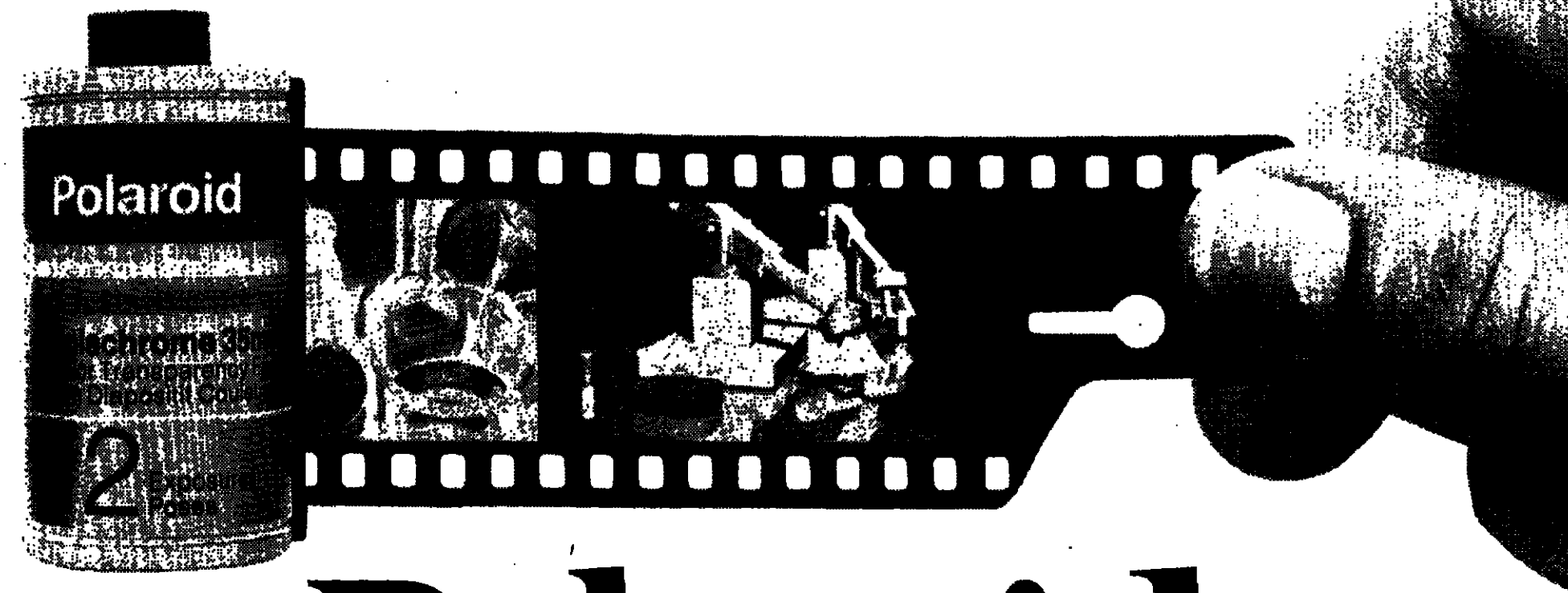
Both the Educational Institute of Scotland and the Scottish Further and Higher Education Association have praised Strathclyde's stance. Mr Arthur Houston, further education officer of the EIS, said the union wished the college to be designated a central institution as far in advance of the transfer date as possible, but was not prepared to surrender over the composition of the board.

However, Strathclyde will now undoubtedly feel itself under pressure since Mr George Younger, Secretary of State for Scotland, last week laid regulations before Parliament changing the college in Edinburgh to a central institution, and setting up its governing body.

Napier and Lothian Regional Council, which currently runs the college, over the board of governors' composition, but the "Tory-controlled council was not prepared to challenge the Government."

Mr Younger has appointed Professor Cairns Aiken of Edinburgh University's rehabilitation studies unit as the new governing body's first chairman.

Three of the 28 governors will be appointed by the Scottish Secretary, compared to the current two appointed by the central institution boards. There will be two regional council representatives, but no direct council governors and three academic and non-academic staff representatives.



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Leaving out the less obvious

The report of the Jarratt committee on efficiency in the universities received almost as much press coverage as had Sir Keith's schools' White Paper the previous week. It said that in the universities decisions often take a long time and that management found it hard to cope with unexpected cuts. It implied that the rest of the world handled uncertainty better.

"Universities rapped" was the best headline. It must have been a dead week. I hope that the converts to managerial control at the top of Elizabeth House will pause to consider the context in which Jarratt proclaimed the new managerialism for the remote fastnesses of higher education. I hope they will ponder on the predictability of the recommendations.

The report reinforces the pleas of the University Grants Committee and the Committee of Vice-Chancellors and Principals, as well as the Association of University Teachers, for a period of stability and reliable funding so reasonable plans can be made in institutions whose lead time for decisions is at least five years. It reproaches the Government for its erratic decisions on finance. Is it childish to suggest that this has been said before and that it did not require an expensive team of management consultants to discover the truth?

For anyone familiar with management consultants' reports, a lot of the recommendations are textbook stuff. Fewer committees, one small planning and strategy committee which would pull the teeth of bigger committees like senates by preempting their decisions, and reporting to a small management oligarchy led by a more effective boss or chief executive. Vice-chancellor is managing director; council is board of directors; senate relegated somewhere to quality control (but strictly on a cost effective basis of course); Jarratt tells us all these things will make our universities sharper, speedier decision makers. But to decide what?

Somewhere along the line in this rather sententious document they forget to ask themselves whether the existing arrangements had sprung up precisely because universities are not businesses. Universities do, of course, have significant financial responsibilities and must manage people and money properly and show they are accountable. Their prime function, however, is to provide an atmosphere of freedom of inquiry and knowledge in which research, study and teaching can thrive.

Involving as many people as possible in the decisions that affect them is part of that process and one of the distinctive elements in a university as opposed to a commercial business enterprise.

There is no doubt that many of the practical suggestions in the report on purchasing, financial procedures, free flow of information, are all worthy of further work and wider acceptance. I hope however that senior administrators and vice-chancellors will be wary of the apparent power and greatness which Jarratt seems to thrust upon them. A university cannot be run without consensus and cooperation. It may have a terribly efficient management structure, have a financial control system of impeccable accuracy and be able to cost and to account for every item of expenditure, but if in the process of gaining this managerial world the soul of the institution is lost, where is the profit?

Diana Warwick

The author is general secretary of the Association of University Teachers.

Distant prospect for updating

by Felicity Jones
Universities will greatly increase their updating training for professionals through the use of distance learning methods, Sir Peter Swinnerton-Dyer, chairman of the University Grants Committee, predicted last week.

One course in a subject would be run by only a couple of universities and sent to students at home or work, he told the Universities Council for Adult and Continuing Education Conference in Dundee.

Universities would then enter into competition with each other once institutions no longer served their own locality.

"Timelessness and the feeling that this is your patch and nobody else can enter it are assets which will not be discernable," Sir Peter said.

These kinds of courses should be central to the average university's thinking about continuing education, because they did not rely on public funding. There would be a small amount of Government money for subsidy and speculative ventures.

In the past universities had taken adult education much more seriously

but the public sector now had a better track record and could offer more experience and cheaper courses. But he hoped that some universities would develop it as a major concern in the future.

Ideally research should be disseminated but this could be done through learned journals and there was too much research being done at present. Adult and continuing education was peripheral in university education and it was at a disadvantage in the current financial crisis.

Sir Peter predicted the general neglect of mature students until universities realized that they would provide a new constituency, when the universities would relearn on their death bed.

Mr Andrew Bennett, shadow spokesman on higher education, said recurrent education was like aid to the third world.

"Everyone agrees it should be done, consequently little happens. But, like third world aid, if we do not invest in recurrent education now, we will have to face the consequences later," he said.

It had an important part to play in

any economic revival and with the decline in the number of 18-year-olds, spare places should be offered to mature students and post-experience courses should be developed.

Learning took place naturally in mixed age groups. It should not be placed in boxes so that an individual lost out for good if a box was missed.

"The education system must be adapted to coincide with natural learning patterns. We must not close the doors of our schools at the age of 16 and say, 'You will never enter here again'."

Recurrent education was also vital to the continuation of democracy. "Unless everybody was given the skills and self-confidence to participate fully elections are little more than a sham," Mr Bennett said.

Professor Stuart Marriott of Leeds University said adult and continuing education was in a political situation which it would have to exploit.

"There is the rainbow of post-experience vocational education and the creak of gold at the end and I get the feeling that the treasure hunt is on," he said.

Fighting it out on paper

by Jon Turney
Science Correspondent

The prophets of the computer revolution still argue their case by writing books about it. It was this contradiction which undermined the opposition of the close of conference motion at last week's Educational Technology International meeting in London.

The motion, "That the book remains the most effective educational and training technology", was opposed by Messrs Bulmer and Drinkall. As computer buffs, both work for acronymic organizations, Mr George Bulmer for ROCC Computers Ltd and Mr Brian Drinkall for PMSL Mentor Ltd.

Mr Bulmer emphasized he did not wish to see the demise of books, but it was clear they had already been superseded by computer-assisted learning in many areas of professional training.

"I'd rather be on a plane flown by a pilot who had trained on a simulator than one who had just read the book," Books, he said, were an inefficient way of storing information, with limited access, poor illustrations, and a large appetite for trees. But books leave their mark in ways a visual display unit cannot, insisted Mr Philip Kogan, of the publishers Kogan Page, proposing the motion. "While the first 2,000 discs instead of receiving the first copy of a book," he asked.

He was joined by Mr John Davies, director of the Educational Publishers Council. He recalled that the computer was not the first medium whose advocates had foreseen the "death of the printed word" as the late Dr Christopher Evans put it in 1979. There had been similar furies in the 1950s, programmed learning and audio-visual aids in the 1960s, yet the computer revolution still existed only on paper: "paper cascades down on you predicting the paperless society".

He felt the claims for computers were frequently destroyed by overstatement. Then again, asked Brian Drinkall, if the book was so effective, why hadn't the proposers simply written down their arguments and circulated them? It was the teacher who mattered, and both books and computers could offer a cue for the teacher to use.

Cue for a very British intervention from Mr Norman Willis, lately of the Council for Educational Technology. This was all too adversarial, he felt. No one medium was king. New technologies did not overtake the old ones, they were used alongside them.

And this was very much the flavour of the ensuing discussion. There were criticisms from the floor of the poor quality of educational software, and the plethora of textbooks written simply to advance academic careers without any thought for the student. But most contributors saw a role for all the new technologies as well as the old, not forgetting chalk and blackboard.

The cheering congratulated themselves for growing out of the media myopia which had characterized educational technology conferences in the past, and Lord Howe in the chair declared the result a draw.



Cheeky: new Middlesex Polytechnic BEd graduates Helen Chryssal (left) and Lily Christodoulou greet polytechnic director Dr Ray Rickett during a pause in the Middlesex awards ceremony.

Manual pay offer goes to vote

Leaders of the main university manual workers' union believe their cash limit-busting pay offer of up to 6.71 per cent for thousands of lower paid staff is the best they can achieve without prolonged industrial action.

But the universities' national committee of the National Union of Public Employees is angry that the £4.80 a week flat rate pay offer does not meet their objective of eradicating low pay, although it compares favourably with offers elsewhere in the public sector.

It is therefore to be put to the union's members without a recommendation and NUPE's executive council will consider their views on April 19.

Payable from April 1, the offer would increase the weekly wages of the

lowest paid to £76.30, and it is worth about 5.5 per cent to the highest paid whose wages would rise to £92.00.

The university employers, who last year faced industrial action by manual workers seeking a commitment to start the process of eradicating low pay, were prepared to make them a special case this year.

The offer, which is worth more than twice the pay element in the recurrent grant, was made at the first full negotiating meeting. Both university academics and technicians have been told universities can afford no more than 4 per cent.

But union leaders representing both groups complain that this does not match the lost value in earnings due to inflation.

Poly defends primary postgraduate course

by Patricia Santinelli

Birmingham Polytechnic this week attacked the Ministry of Education's criticisms of its primary postgraduate course pointing out that these were based on an ideological split between the HMI and institutions on the training of primary teachers.

The criticisms were published in a report on the polytechnic's faculties of education and teacher training and art and design, as part of a major inquiry into teacher training across the country.

Results of the inquiry are being used by the new Council for the Accreditation of Teacher Education to assess courses for approval.

The inspectorate praised Birmingham Polytechnic's secondary postgraduate art and design and drama courses as examples of outstanding training, but said the primary PGCE course fell short of the high objectives set.

For example the framework of the faculty-based course was minimal and the professional knowledge acquired by students was difficult to assess, the report said.

"Nevertheless it is clearly patchy and in many areas quite inadequate, notably in art, music, science and barely adequate in mathematics and language."

Course tutors had to consider whether there should be more specified structured support in major areas of the primary curriculum.

Mr Brian Watkins, head of the polytechnic department of curriculum studies and postgraduate training, said that although, on the whole, the report gave the departments a good write-up, he saw the HMI comments on the primary course as a typical example of the ideological split.

The HMI visited the course after it had been going only five weeks and

came with a view on the training of primary teachers which it saw as "packaged inputs of quantifiable and observable units".

This was not how the course had been designed, Mr Watkins said. No structure was imposed and it was built on observable student needs, but subjects of the primary school curriculum were covered.

The framework of the course was built step by step for each topic after evaluation, therefore it could not be laid down at the beginning of the year.

The inspectorate was also critical, as it has been in many other reports, of the staff's lack of recent school experience. This dated back more than 10 years and not unexpectedly was secondary orientated.

Mr Watkins pointed out that the polytechnic had a clear policy for the retraining of staff but like all institutions had a long way to go.

Student sues for \$4 million

from William Norris

WASHINGTON

America is a notoriously litigious society, made so in part by the contingent-fee system which allows a lawyer to be paid solely by results, and the generosity of juries in awarding damages.

Even so, a former student at the University of Wisconsin, Mr Gary Horowitz, has caused a sharp intake of breath in academic circles.

Mr Horowitz is suing three of his former professors for \$4 million because, he alleges, he was failed in a preliminary doctoral examination when they failed to agree philosophically with his answers. This, says Mr Horowitz, curtailed his freedom of speech and thus violated his rights under the first amendment to the United States constitution.

It is no laughing matter. For a time it seemed that Mr Horowitz would never get to first base in the legal process, but now the state appeals court has ruled that he should have the chance to put his case before a jury. The University of Wisconsin, close to panic, is appealing to the state supreme court to overturn the ruling.

One of the university's attorneys, Mr Michael Lietzen, explained: "It seems to us that the implications of the appeals court decision are awesome to behold. It appears to say that you can get a trial on a failing grade just by implying that your first amendment rights were violated. Our position is that the courts are ill-equipped to make the highly-technical judgements that go into failing a student."

The origins of the case go back to the late 1970s when Mr Horowitz, who had obtained bachelor's and master's degrees at Madison with honours, sought his doctorate in education. His research material for his thesis criticized the validity of college entrance examinations and the origins of intelligence testing.

Mr Horowitz, now an accountant and insurance agent, claims that he subsequently obtained a doctorate elsewhere - but refused to name the university concerned. He says that he had filed the case in order to improve his chances of getting a teaching job in educational policy studies.

The three professors concerned have declined to comment in detail, but have denied prejudice. If the state supreme court refuses to review the appeals court decision, the case will go to trial.

'International OU' urged for France

from David Dickson

PARIS

France should set up a television-based international open university as a vehicle for developing higher education throughout Europe according to a report prepared for the French government by the College de France in Paris.

Such a project is one of many ways in which new communication technology could be used to increase the effectiveness of higher education, the college says.

Domestically, it could also provide a step towards French universities becoming major centres for continuing education, including the retraining of teachers.

The college, which was set up by King François I in 1531 as a counterweight to the universities of the period and has since been the most prestigious academic institution in France, has also suggested that universities should enjoy a greater degree of autonomy from the state in managing their affairs.

This should extend to the right to

determine their own employment policies, the courses that they teach, and perhaps even to demand fees from students - a sharp contrast to the current situation, in which university education in France is practically free, students being required to pay no more than an annual £20 enrolment fee.

The suggestions all come in a report which has been prepared collectively by the 54 members of the college at the personal request of President François Mitterrand on future directions for educational policy in France.

The various proposals in the report - for example, that consideration should be given to the possibility of setting up private or semi-public universities in parallel with the state system have each been put forward by individuals or groups within the past few months as recommendations for the way forward for French higher education.

Indeed, several of the proposals are already being put into effect by the government. And Mr Roger-Gérard Schwartzberg, the minister of state

for universities, said the report contained "many proposals with which I am broadly in agreement".

In particular the government was already taking steps to give universities the authority to raise funds from a wide range of outside sources, from private foundations to industrial research contracts, thus freeing them from excessive dependence on the state.

The report was drafted by a team headed by the eminent sociologist Pierre Bourdieu, but was discussed and agreed upon by all members of the college before its presentation to President Mitterrand. It will inevitably have a significant political impact and is likely to provide a framework for discussion of higher education policy up to the general election next year.

Already the report has been broadly welcomed by members of the opposition Union of French Democrats which has issued a statement claiming that it contains many proposals which conservative members of the National Assembly failed to insert in the government's higher education law when

it was debated in 1983.

Conversely, there has been a cooler reaction from unions representing university teaching staff. Although welcoming some of the broad statements of principle, the unions have expressed reservations about the implications of the widescale introduction of market criteria into university activities.

The open university is one of a number of steps which, the report suggests, could be taken at all levels of the education system to exploit the potential offered by new communications technologies, ranging from the use of video cassettes to access to computerized data banks.

The members of the college suggest that: "One could even conceive that, based on a European satellite and at competitive prices, this open university might come to broadcast on a European scale high-level multilingual education and to offer a preparation for conventional higher education examinations, thus contributing to a European unification of teaching and qualifications."

Australian history chair to continue

by Geoff Maslen
and John Walshe

The Australian government has reversed its decision to cease funding a chair of Australian history at University College, Dublin.

There were fears that the chair would have to be abolished at the end of the current academic session because the college could not raise alternative funds. But now the Australian government has decided to contribute \$200,000 towards the cost of its permanent endowment and a further \$200,000 will be provided from a private source in Australia.

Announcing the decision, the Australian minister for education, Senator Susan Ryan, said she was delighted the chair was to be permanently endowed, not only because of the strong historic links between Australia and Ireland, but also because it underlined the increasing interest in Australian studies internationally.

Since 1976, the department of foreign affairs has been making annual grants to support the chair. This will no longer be necessary with the permanent endowment.

Last December, there was an outcry when the government said it would not continue to fund the chair. The post was created by the former Labour prime minister, Mr Gough Whitlam, with the intention of improving cultural and academic relations between Australia and Ireland. It was the first



Senator Ryan: delighted

of its type in Europe.

Senator Ryan said interest in the Australian history course in Ireland had been widespread. Last year, some 130 students were enrolled in the various courses, including some at honours level, and the course had been acknowledged as extremely successful.

The decision was communicated by Australia's trade minister Mr John Dawkins to the president of the college Dr Thomas Murphy. Mr Dawkins, in Dublin for a meeting of European Trade Commissioners, said that Australia was pleased to be able to give lasting recognition to the ties of blood and affection that bound the peoples of Ireland and Australia.

"With one in four Australians having Irish ancestry, Ireland's history is a large part of Australia's," he said. The college has welcomed the Australian government's latest decision. It will have to raise some additional funds but hopes to be able to do so mainly from private sources.

California team undertake painstaking research project

Said the learned professor from Keele: Although I know pain isn't real When it's on a pin And it punctures my skin I dislike what I fancy I feel.

The Limerick could well be the theme song for research now going on at the University of California, San Francisco, where Dr Howard L. Fields is trying to discover how pain can be modified by responses from the mind and body.

How is it that a wounded soldier is often able to flee from the battlefield unaware of his injury until out of danger? Why can a sugar pill or placebo sometimes give a patient pain relief as powerful as morphine? And why do even the strongest pain-killing drugs lose their effect over a period of time?

Dr Fields, already recognized for his discoveries about a specific brain system that inhibits pain, is heading a \$1.8 million research programme to seek the answers. Using laboratory animals, Dr Fields and his colleagues will study the substances involved in relieving pain, map the pathways of pain transmission and characterize cells in the brain which create and modify the experience of pain.

Current research is focusing on the midulla, a short cone of neural tissue on top of the spinal cord which regulates many involuntary bodily functions. It will have to raise some additional funds but hopes to be able to do so mainly from private sources.

have discovered two types of these neurons whose activity changes just before the animal reacts to a painful stimulus - one pauses, and the other accelerates.

Morphine appears to cause a marked increase in the activity of the neurons which pause and Fields suggests that these neurons suppress pain. He is interested in how the cells that pause differ chemically and physiologically from the cells that accelerate and how they both interact to heighten or abate pain sensations.

Working with Dr Fields will be professor Henry Ralston of the department of anatomy, Dr Nancy Lee, associate professor of pharmacology, and Dr Allan J. Basbaum, professor of anatomy and physiology.

"Pain is a product of the brain, just as the colour red is the brain's response to a certain wavelength of light," Professor Ralston says. "Pain is not necessarily inherent in damage to the body. It is a response which the brain creates to some types of stimulation." He is setting out to separate nerve cells in the thalamus into those which respond to painful stimuli and those which respond to other stimuli such as brushing or pressure.

Dr Lee will be measuring the amount and activity of the three natural pain-killing substances which are synthesized in the brain - beta-endorphin, enkephalin and dynorphin - to show how imbalances in their levels can affect tolerance and drug dependence.

Work today, school tomorrow

The first in an occasional series by RICHARD YELLAND, who is spending 1985 travelling the world on unpaid leave from the Department of Education and Science.

Sri Lanka is undergoing more than one struggle these days. While I was there - as a tourist, not as a professional educationist - the Tamil question was often raised by local people of many walks of life, who were usually anxious to reassure me that I was in no danger. Jaffna and the restricted zone in the north were not on my itinerary, but across the country there is evidence that things are not as they should be: sandbags and barbed-wire surround police stations, banks are guarded by self-conscious employees, bearing ancient rifles, trains have been restricted to minimize night travel, and everywhere there are the ruins of shops and houses destroyed in 1983.

The nearest I came to action was when a group of Tigers - "the boys" to their sympathizers - raided a bank close by and made off with a bicycle and the teller's funds.

In a country where news on such matters is heavily censored, if reported at all, Tamil is the medium. Those who can read British or American newspapers, the rest live in ignorance.

Television news is little more than a procession of uncritical items on "ministerial movements and speeches." I encountered fear, resignation and puzzlement, but little anger, at what was happening.

By contrast anger is the emotion most often aroused by the recent hastily introduced Universities Act. It brings the existing universities under the direct control of government, and provides for the establishment of private universities which will take students according to their ability to pay, rather than their academic achievements. University education in Sri Lanka has so far been free and entry is competitive. Students are protesting with demonstrations and strikes, despite the Government's threat to stop awarding scholarships and bursaries if they do.

Ten days' absence from lectures will mean the loss of a whole month's money. News on universities and student affairs is censored too, and THESE readers will not doubt already know more than I could discover. Even obtaining a copy of the legislation was impossible; the tussle continues.

The world of adult education seems little affected. At the Institute of Workers' Education at the University of Colombo, work goes on uninterrupted. This small unit with five full-time staff under director George Mendis devotes much of its time to a special degree in labour education. The five-year part-time course begins with a foundation year which combines catching-up classes in such subjects as

mathematics, English and science, with an introduction to labour studies. Eighty-five per cent of the 370 first-year students are nominated by their unions, but Mr Mendis takes care to select those who would not otherwise be able to follow a conventional degree course, and the formal academic attainments of many are very low. In the 1983 intake 35 per cent were clerks, 25 per cent labourers, 10 per cent technicians. Many may not complete the course because the pressures of work and day-to-day life prevent; but concern about drop-out rates is tempered by the condition that even partial attendance is of great benefit. Completion of the second year leads to a diploma (in labour education) while those who reach this degree are expected to take senior union positions.

The Institute is increasingly running short courses and special programmes, for example, for plantation workers or small farmers. But the most heavily subscribed are English language courses. In the wake of the substitution of Sinhala for English as the official language, a sufficient grasp of English is insufficient to enable them to take full advantage of tourism and the wider commercial

opportunities that President J. R. Jayawardene's policies have brought. (Here it has to be said that taking advantage of the tourists is something some Sri Lankans do not need to be taught. Innate abilities give them sufficient command to tout their wares in a variety of languages, although there is a curious collective incapacity to understand the word "no" in any of them.) English is now widely sought as the key to success and private tutorials are a bountiful source of additional income for teachers outside their regular hours of duty. The government itself has arranged a "training the trainers" programme with the American Peace Corps, under which 21 volunteers are spending two years uplifting those with a basic understanding of English to the point where they can themselves teach others. The British Council, which offered me a warm welcome, of course plays its part too.

One noteworthy experiment in English teaching is being conducted by the IWE which is taking space in a Sinhala daily newspaper to offer 30 lessons with self-assessment tests.

The private sector provides courses in subjects other than English. The brain drain of many Sri Lankan technicians, engineers and managers to the

Middle East has left a gap which courses in marketing, computer studies and technical updating seek to fill at up to £300 for a week. The shortage of skilled manpower is singled out in the government's published expenditure plans for 1984-88 as a factor in the deterioration of water supply services, and the universities are themselves beginning to get into this pick-up field. "The motivating factor being the gains benefits - in the form of fees - accruing to the staff involved", according to one report.

Private enterprise and its relation to public services constantly confront one in Sri Lanka, and practical experience is not confined to adults. Despite claims of 80 per cent plus school participation in the five to 14 age group there is no shortage of children on buses, trains and benches selling fruit, peanuts and cigarettes. One noted six-year-old knew all the tricks - low leapers, knee samples - and almost convinced me that I was robbing her in paying only twice the going rate for bananas. She was unusual - it is mainly boys who are engaged in "business". If you ask them why they're not at school they'll blame pressure of work - "School tomorrow".

overseas news

Students 'deserve better'

by Geoffrey Parkins
China's education minister, He Dongchang, has urged universities and colleges to abandon their bureaucratic style and take more notice of their students.

Speaking at a conference of heads of universities and colleges in Peking, Mr He said the most urgent task facing university authorities at the moment was to improve students' living conditions.

The best way to do this would be to conduct regular discussion forums with them and when complaints or suggestions were reasonably justified reforms should be implemented as soon as practicable. But Mr He said that when problems and difficulties could not be overcome immediately, the reasons should be explained to students.

The education minister went on to say that he understood that the new educational reforms had placed a great deal of pressure on university authorities, but their bureaucratic style, which ignored the difficulties of individual students, had to be broken.

Many student demands and suggestions on academic work were also justified, he said. Improvements would include a reduction in compulsory classes, more time for private study and generally improving teaching content and method.

Mr He added that students were

naturally interested in the current economic and urban reforms, and universities should ensure that these topics were adequately covered in their academic work.

Among other things, said the minister, universities must provide students with adequate meals and must make certain that regular inspections of canteens were carried out to ensure that standards were maintained. More encouragement should be given to work study programmes which provided part-time work for students.

Not only would this solve the financial problems of many students, but it would also eliminate the idea that the state should provide everything, Mr He said. However, state grants would continue to be provided for part-time student workers who still could not make ends meet.

The popularity of part-time work among Shanghai's students has exceeded all expectations. In their spare time and holidays students are now working in factories, stores, restaurants, docks, railways, government offices and even setting up their own businesses.

Senior undergraduates and post-graduates are using their skills in research and consultancy in higher education, industry, agriculture and business, and some are now running their own private education courses.

The government reports that both students and parents are feeling the financial benefits.

Shanghai city records show that over 25,000 students registered for part-time work in more than 100 different fields last year, a figure exceeding all expectations.

A large number of students did not bother to register, and with the extension of the new economic and urban reforms further relaxing the restrictions on trade and self-employment, the figure is expected to more than double this year.

The rise in popularity of earning and learning, once reforms were introduced, was perhaps inevitable, but several other factors have contributed to its growth. These include a sharp rise in the cost of living, the introduction of student fees, and a change in the scholarship system whereby student grants are awarded on the basis of academic ability rather than means-testing - which has hit the least well off.

The Shanghai government reports that for both students and parents student part-time work has been a welcome development. Parents are pleased to ease the burden of supporting their children while they complete their education and students are clearly enjoying their new-found independence and spending power.

How Estonia must suffer in silence

from Donald Fields

HELSINKI

A disturbing picture of how Russian can sweep aside the native language at all levels of education in a Soviet republic is painted in a new study of Estonia.

The Finnish-language book *Viro ja Venäja (Estonia and Russia)*, by a group of writers using the pseudonym Sirje Sinilind, reveals that at Tartu University, which is officially presented to the world as a distinctively Estonian one, there are in fact some departments giving instruction exclusively in Russian.

In the university's philological faculty the number of posts for full-time teachers of the Estonian language, literature and folk lore rose from 15 in 1970 to 24 in 1975 but then fell to 23.5 in 1980.

By contrast, respective figures for the Russian department were 27.5, 29.5 and 42.5. The distortion differed little when part-time teachers and assistants were taken into account - eight in Estonian and 14 in Russian in 1980.

According to Sinilind: "Since 1975 doctoral theses and bachelor dissertations have to be written in Russian, irrespective of the subject. This is clear discrimination against Estonian. The situation is especially acute in literature: a degree can only be approved if the field covered is Marxist or Soviet literature... as far as is known, it is impossible to submit a thesis dealing with the period of Estonian independence (1918-1940)."

With 1,465,000 inhabitants at the 1979 census, Estonia is the least populous of the USSR's 15 republics.

Assigned to the Soviet sphere in the Molotov-Ribbentrop pact of 1939 - which has never been rescinded - its population has been affected by a mass exodus before the Red Army, deportations and death in Stalin's prison camps, the immigration of Russians and other Soviet nationalities, and significant birth and death rate differences between various ethnic groups.

The indigenous share of the population dropped from 92 per cent in 1940 to 65 per cent in 1979, though the latter figure might be 60 per cent when the personnel of Soviet military bases is accounted for. There are clear Russian language majorities in several provincial towns and the capital Tallinn is set to follow suit. Estonians still form 74 per cent of the population in Tartu and 85 per cent in rural districts.

Estonian remains the official language, vividly preserved in great choral festivals rooted in an academic tradition. But its chances of survival are becoming gradually slimmer, with far more instruction in Russian for Estonian children than that in Estonian for new settlers.

At Tartu University all students, including women, are subjected to one day a week of military education in nothing but the Russian language. There are no native speakers of English and German in the relative institutes, and departments of romantic and classical philology do not exist.

The authorities insist that Russian is a great international *lingua franca* and deem upholders of Estonian guilty of "bourgeois nationalism". Sinilind's book reveals the clear differentiation that now exists between the two languages, with an ethnic Estonian unable to make progress in academic and other professions without a command of Russian.

Many party high-ups, including Mr Karl Vaino, secretary for the republic, are Russians. They have inspired top-secret but leaked directives, applying to schools in particular, about the propagation of Russian at the expense of Estonian.

Under their tutelage censorship has reached laughable proportions (as a list of banned Finnish books indicates), and the national museum in Tartu, once one of the finest of its kind in the world, is threatened by neglect. Typewriters fitted with Roman as opposed to Cyrillic characters are now impossible to acquire.

Intellectuals who have thrown in their lot with the party feel no apparent qualms. Judging by his writing quoted in Sinilind, academician Gustav Niam warns to the idea of distinctive values vanishing during the next centuries.

By contrast are the dissidents, many of them products of universities who have signed declarations against the enculturation of culture in Estonia and the other Baltic republics, Latvia and Lithuania. About 40 of them languish in Soviet labour camps.

The Sinilind book has been denounced by Finnish communists as one of three recent volumes "offensive to the USSR". But in a television interview an assistant professor at Helsinki University, Seppo Zetterberg, welcomed its publication.

Its appearance in a country that exercises restraint in its dealings with the Soviet Union is significant, especially in view of the admission to the Finnish Pen Club by Professor Jan Magnus Jansson, influential editor-in-chief of the Swedish language newspaper *Hufvudsbladet*, that the Finnish press had tended to neglect the Baltic states.

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Raising a delicate subject

by Patricia Santinelli

Teachers' leaders are expected to meet senior officials at the Department of Education and Science next Monday for exploratory talks on the delicate topic of teacher appraisal. The DES has already held similar discussions with local authorities.

How well these will go is anyone's guess in the present climate of accusations and counter accusations. The National Union of Teachers has already accused Sir Keith Joseph, the Secretary of State for Education, of misrepresenting them and having delayed discussions for two months.

But if they do go well, the discussions will mark the first step towards the introduction of a national system of appraisal. As Mr David Hancock, permanent secretary at the DES, made clear in his February speech on the subject to the Industrial Society, this will also apply to lecturers in colleges and polytechnics. He added that universities should be thinking about it.

Sir Alex Jarrett made it clear in his efficiency report on universities at the beginning of this month that he favoured appraisal for academics, as a method of helping individuals realise their best. But it would not be linked to pay.

In fact there has been considerable more development of appraisal pilot schemes in schools than in further and higher education (except for Dr Keen's system at Garnett College). No doubt an important input to any national system will come from the report due this month of a review of schemes in schools and industry conducted under the direction of the chief education officer of Suffolk.

As far as the Government is concerned, appraisal does not appear to have been an important theme until Sir Keith Joseph's speech to the North of England Conference in January.

Sir Keith Joseph said then that he was in favour of a fully effective appraisal system which would help teachers' career development, rather than one designed to foster the removal of incompetent teachers. Since then, however, there have been several conflicting statements from Sir Keith on the subject.

His speech to the conference was followed by Mr Hancock's to the Industrial Society and it remains possibly the only blueprint of what the department intends.

This includes punitive action, but the DES has been unable to provide details.

Mr Hancock's speech was followed in March by further and almost simultaneous statements on the subject by Sir Keith and Baroness Warnock, the mistress of Girton College.

In an interview on ITV's Weekend World, Sir Keith clearly linked appraisal to pay and made the surprise announcement that the department had £1 million available for pilot projects.

Lady Warnock, speaking on the theme "Teacher Teach Themselves" for the BBC's *Dimbleby* lectures, said that teacher assessment should take place but that it should be in the hands of a General Teaching Council. She was opposed to teacher salaries linked directly to the outcome of assessment.

Very shortly after this, Sir Keith launched his *White Paper Better Schools* in which a little noted paragraph revealed that legislation on appraisal was not just a gleam in Mr Hancock's eye.

The *White Paper* said: "It is proposed therefore that the Secretary of State's existing powers for regulating the employment of teachers should be extended to enable him to appoint or remove teachers in appropriate circumstances, to require local education authorities to appraise the performance of their teachers."

At Garnett there is absolutely no obligation for anyone to reveal their appraisal. But if they do not, they can go to the staff development officer or head of department.

Dr Keen does not deny that there are a number of critics of his approach. These argue that if no one has told teachers what is good or bad, then they could easily be working entirely on the wrong lines.

But Dr Keen says this is not the

Three-in-one report on the new quest for a national system of teacher appraisal

Mirror, mirror, on the wall . . .

A magic mirror that suddenly reveals you as you are and as other people see you may appear a far-fetched and worrying description of a self-appraisal system for teachers.

But Dr Terence Keen, vice principal of Garnett College in Roehampton, who designed the Flexgrid system in collaboration with others, insists that this is an accurate if simple picture of its effect on teachers.

Basically Flexgrid is the successor of the previous Target system. The 1985 version was designed by Dr Keen and Dr Finn Tschudi of the University of Oslo, where as at Garnett, it is being used by further and higher education lecturers for appraisal of strengths and weaknesses. Dr Tschudi actually markets the system commercially.

Primarily the interactive system is non-threatening and non-punitive. It does not rate teachers on a scale between good and bad. And it can be used in complete confidence - at Garnett teachers are encouraged to take a microcomputer home with them, and test themselves in complete privacy - with the main intention of identifying their strengths and weaknesses.

The system is based on the principles of personal construct psychology which unlike other systems in vogue does not rely on a behavioural approach. It attempts to raise teachers' perceptual awareness and enable them to become more effective in their jobs.

"Personal construct psychology enables you to understand your behaviour," Dr Keen says. "It makes explicit things you know intuitively but would never tell yourself. So it is like a mirror which suddenly reveals you as you are and as people see you. It brings the subconscious to the conscious level."

He stresses however that this is not a predictive system against criteria. It is a technique to enable you to see how effective you are in the lecture room or classroom.

Dr Keen's interest in appraisal systems goes back to 1970 when he was a physics lecturer.

"I saw teachers of variable qualities in schools and colleges. There were good teachers who knew it and bad teachers who knew it. But there were also others who were indifferent teachers, but did not know it or thought they were good. I felt there was a need to find some method which would help."

Dr Keen's interest crystallized into action when he moved to a polytechnic in 1974 as senior education officer and became involved in staff development. By 1975 he had produced the Target system.

Appraising yourself is a straightforward procedure. Once you have fed the basic programme into the microcomputer, you will then feed in all the variables which you believe relate to an effective or non-effective teacher. Nothing is predetermined.

Dr Keen's variables range from "badly organized", "involved with audience", "sarcastic", "caring", "good disciplinarian", "bad planner", and "good on preparation", for example.

At the very minimum, the system can cope with six teachers and six constructs, at the maximum with 20 teachers and 20 constructs.

Once you have established what the attributes of an effective teacher are - and the deficiencies of a non-effective one - you can not only compare other teachers against this, but also see where you stand yourself.

At the end of the programme you will get a statistical analysis which can be either graphical or pictorial. This will reveal you, if like myself you have no experience of teaching, as a one-dimensional being whose top rating for an effective teacher is someone who enjoys their work and therefore "causes learning".

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But Dr Keen says this is not the

BRIEFING
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BRIEFING

point. "I see it as our business to help teachers as professional people identify their own strengths and weaknesses, and not in imposing some kind of outside model of what is or is not competence."

He adds that most appraisal techniques developed in other countries have been based on a behavioural approach.

"Basically they have looked at good practice and drawn up a check list. The problem is that when you apply it you are making assumptions that what is effective with one group of students will work with another, and this is just not true," Dr Keen says.

He fears that the Department of Education and Science will introduce an Anglicized version of a grading system developed in the United States. In particular Dr Keen points to Bert Biles from Kansas State University, who has been to the UK several times, and who is believed to have had talks with the DES.

Dr Keen has worked with Biles and says he is committed to the view that you can identify behavioural characteristics, and then by using a check list decide how good or bad teachers are. Basically Dr Keen would like the professional associations to take the lead and say that we do not need a criteria-led system, but one more on his lines.

He does not hide the fact that so far his system has been greeted only with mild interest by the DES, and certainly no offer of funds have been forthcoming. Consequently he was somewhat surprised to hear that the Secretary of



who was revealed as over-using one particular teaching technique, in six months later he had radically changed and was using a much wider range of teaching methods.

After more than 10 years' involvement in appraisal systems, Dr Keen is particularly concerned about the Government's recent statement on appraisal. He is personally opposed to linking appraisal to pay. This he says is a retrograde step that should not be contemplated.

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State for Education had £1 million in the kitty for pilot projects.

Dr Keen says he has approached a number of agencies and obtained small sums to develop the system. Currently he is waiting to hear from the Council for National Academic Awards.

He needs about £25,000 to complete the project. If this becomes available the development will be completed in one year, if not it will take another 10.

Among the improvements he would like to introduce are a voice synthesizer to make the system more interactive. He also wants to make it more explicit so that no questions come up on, for example, what particular abbreviations or symbols mean.

Dr Keen says that a number of institutions and local authorities have shown an interest in this system. Middlesex Polytechnic has used his earlier version but has not developed it further. Others are Harlow and High Peak (Derbyshire) colleges, and Kent local authority.

Overseas, he has been having discussions with the University of Montreal in Canada, and he has demonstrated the system at the University of Leningrad, the University of Valparaiso in Chile, and last summer took it round Mexico where they already use appraisal and are looking for a less threatening system. The system has also been used in industry with managers.

Patricia Santinelli

Row over university plan to export infertility treatment

from Geoff Maslen

MELBOURNE

A decision by Monash University in Melbourne to market *in vitro* fertilization technology overseas is generating controversy in Australian academic, medical and legal circles.

The university, together with certain business interests, proposes to set up a company called IVF Australia to make infertility treatment available to clinics in the United States.

Members of a team of medical researchers at Monash are now world leaders in developing *in vitro* fertilization techniques. But the university's plans to capitalize on this have created a wrangle about the implications for research, as well as questions about ethical issues the techniques raise.

According to the university, the setting up of a company will mean approved treatment will become immediately available to a more extended community of infertile couples in America. The demand for this treatment was substantially unfilled there, Monash said.

Under the university's plans, profit from the company's operations would be distributed privately to IVF scientists and clinicians employed by Monash. The vice chancellor, Professor Ray Martin told newspapers: "One way to hold our group together would be to offer some form of profit sharing or equity in the company. Many of the scientists have no superannuation or security and are paid simply on an annual basis."

The medical research ethics committee of the National Health and Medical Research Council said last month there were several ethical concerns about one of the techniques, called surrogate embryo transfer, including treating the embryo's female donor as a means to an end.

But following the announcement of the plans, there have been calls by academics for more details. Dr Robyn Rowland, a social psychologist at Deakin University who has written widely on the social and ethical issues surrounding IVF research, said it was reprehensible for a public institution like Monash to pursue secret plans which the public had a vital interest in scrutinizing and debating.

Although the university council laid down certain guidelines which Professor Martin was expected to follow in the negotiations for setting up the company, Dr Rowland disputed whether they would be adequate.

"If they intend to sell a technique that has not been made public or published, then already there has been information withheld from the scientific community," Dr Rowland said. If this was the case, it put the lie to the university's argument that it was trying to help infertile couples have children.

"We are not talking about an ordinary technique or an ordinary instrument. We are talking about creating human beings and doing so by methods which some people find not acceptable."

The Anglican Social Responsibility Commission has also attacked the university's proposal.

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Journey to the centre of the earth

The deepest hole in the world so far is the Kola Peninsula, where Soviet engineers drilled 12 kilometres deep.

More than 200 scientists have been involved in preparing the German project which is to be dug either in the Black Forest or near Bayreuth in northern Bavaria. Drilling will start in 1988 and will take six or seven years.

The project, which will be financed by the federal research ministry, aims to learn more about the inner make-up of the continental crust. Technical preliminaries have shown that the new superhole, which will be only 70 to 80 centimetres wide at the top, was feasible.

The details of the offences were not disclosed. Neither institute, however, has any prestige value.

Since in the Soviet Union one's future job depends not so much on the first degree gained, but the place where one gains it, no one, except the most borderline applicant, is likely to

have offered a bribe for a place in an institute so low in its prestige table. At the same time, examination standards in such schools are extremely low and it is also unlikely that the bribes were offered to secure passmarks.

The mention of the evening class dean and the trades union accountant may provide a clue. Attendance at job-related evening courses bring workers a number of fringe benefits, including extra paid leave for study purposes, and exemption from over time.

An enterprising dean of evening admissions and his colleagues, therefore, could well make a useful second income by enrolling alleged evening students on the institute's books, and for an appropriate financial consideration neglecting to report to the workplace that they seldom if ever showed up for lectures.

Bribe-takers unmasked

A group of bribe-takers, operating within the higher education system have been unmasked in Odessa according to a recent report in *Izvestiya*.

The culprits, who have been sentenced to various terms of imprisonment, include the rector of the Odessa Institute of Refrigeration Technology, the dean of the evening class department, a department head and a lecturer in the same institute, a head of department at the Odessa Agriculture Institute, and a senior accountant of a trade union committee.

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Jon Turney concludes his two-part series on the Natural Environment Research Council

When Sir Hermann Bondi retired as chairman of the Natural Environment Research Council last autumn, the Department of Education and Science could not find anyone prepared to take over for the next five years. The council's problems - too little money, too many staff, lack of political support - were already evident.

The current chairman, Mr Hugh Fish, agreed to serve for a year, and DES-appointed headhunters are now looking for a full-term appointee. Mr Fish presides over the first stages of the council's radical new corporate plan, which calls for shedding one-third of the council's staff, reshaping scientific priorities and changing the administration to give stronger control over work done in NERC institutes.

The council's problems and the proposed solutions were outlined here last week. But what will happen now? What will Mr Fish pass on to his successor? He faces strong opposition from trades unions, institute directors, and from some powerful lobbies outside the council. And critics of the plan say the scale of job loss will undermine the NERC's science if the posts are shed by voluntary redundancy or early retirement, even if the targets can be met.

Options for the future

One senior NERC institute director, who opposes the plan, sketches three possible outcomes. If headquarters presses ahead with the plan as it stands, he foresees a complete mess. If there is some backing off from the targets and timetable in the current plan - and Mr Fish has said he would rather see some modification of the details than be forced to use compulsory redundancies - maybe there is a way forward. The third alternative, from this institute perspective, is the break-up of the council.

This option is gaining strong support in some quarters. It arises because the NERC has always been a motley collection of establishments, and several of its component institutes see advantages in being answerable to different government agencies. The most powerful lobby speaks of behalf of the British Geological Survey, the largest and oldest institute.

The BGS's director, Dr Malcolm Brown, admits he has felt the institute should have another home ever since he arrived there from Durham Uni-

versity. He argues there is little connection between geological surveying and the rest of environmental science. He would like to see the BGS reconstituted along similar lines to the Ordnance Survey, perhaps answering to the Department of Energy, currently its biggest customer.

That would account for around half of the NERC's current work. Elsewhere, the Institute of Terrestrial Ecology would not be averse to getting reacquainted with the Nature Conservancy Council, with whom it was united until the early 1970s. The British Antarctic Survey could go to the Foreign Office, in recognition of the strategic importance of the Antarctic. The Institute of Oceanographic Sciences and the other, smaller institutes would have to be found other paymasters, or combined with accommodating universities. And the NERC's money for academic work in universities could be better administered by the Science and Engineering Research Council, conveniently adjacent to the NERC's headquarters.

Variants of this recipe have been promoted by the journal *Nature*, by Professor John Dewey of Durham University, a geologist who resigned from the council when the plan was published, by Professor John Sutton of Imperial College, another eminent geologist, and by others behind the scenes. How to bring it about? The geologists want an inquiry into the council, with the plan frozen pending the findings of an independent investigation.

Such an inquiry would have to be set up or agreed by the Advisory Board for the Research Councils. This seems unlikely, although the suggestion has been put directly to Sir Robin Nicholson, the Prime Minister's chief scientific adviser by Sir Peter Kent, another geologist and ex-chairman of the NERC.

Aside from the ABR's reluctance to raise the prospect of losing one of its charges from the research council fold, there would have to be some reason to believe that the environmental sciences would be better off under re-

vised administrative arrangements. But the reins on public expenditure are no looser in the Department of Energy, for example, than they are in the DES. If the overall size of the science cake is fixed, the call for an inquiry looks more like a ploy by the geologists to increase their share after they have failed to convince the ABR of their case on its scientific merits. Earth scientists point out there isn't a single geologist on the Advisory Board, but that is easily rectified.

Another pointer to the future is the way the board stuck to its guns when similar, though slightly less drastic restructuring was imposed on the Agricultural and Food Research Council two years ago. The board also went to great lengths to win a few million pounds extra from the DES to help pay redundancy costs in the AFRS, and the NERC should benefit from this over the next two or three years. Still the earth scientists will continue their campaign, and they have set up a group to brief MPs on the state of funding for geology and geophysics.

But for the moment, the plan looks like going ahead, with many small battles along the way. No wonder no one wanted the job.

A small story with a sad ending...

A typical Friday at the Institute of Oceanographic Sciences laboratory at Taunton in Somerset is no longer complete without the lunchtime leaving party. Wine in plastic cups, peanuts, wit and fond reminiscence are now blended with gallows humour prompted by the impending closure of the laboratory. With scientific staff faced with a choice between moving to Wormley in Surrey's stockbroker belt or Bidston on Merseyside, the trickle of leavers has now turned into a flood.

The demise of IOS Taunton is a small story from the perspective of the whole of the NERC, but a telling one. For the problems sustaining the laboratory's work after the closure may presage larger difficulties as the council's restructuring programme proceeds.

The original idea was simple. The IOS has three components. Losing Taunton, a not particularly prepossessing laboratory of 50-odd people in temporary buildings on the outskirts of the town, would cut costs and contribute to cutting the total of NERC sites.

The plan was to transfer scientific staff or one of the other two laboratories - the group working on waves to Surrey and those on underwater sediments to Merseyside. The scientist presiding over the split now, following the recent retirement of the Institute's director Mr Malcolm Tucker is Dr Keith Dyer, head of the sediment group. He has been watching his staff ever since the changes were mooted in mid-1983.

The losses stem from a combination of the lack of appeal of Merseyside, tribal loyalty to the Taunton laboratory, opportunities outside, and uncertainty over the future of the NERC. A fresh batch of resignations came with the publication of the council's corporate plan. There are people going now who don't want to go, but see no future with the NERC, according to Dr Dyer.

He effectively faces building up the sediment group from scratch in Bidston. Of the 33 people originally supposed to go north, from Taunton or Wormley, five from Wormley has tented to join other research groups, and all but seven or eight of the Taunton staff have left. Some of those are likely to retire early or take other jobs between now and August when the laboratory finally closes.

In the abstract, there is no reason why the work on sediments cannot be

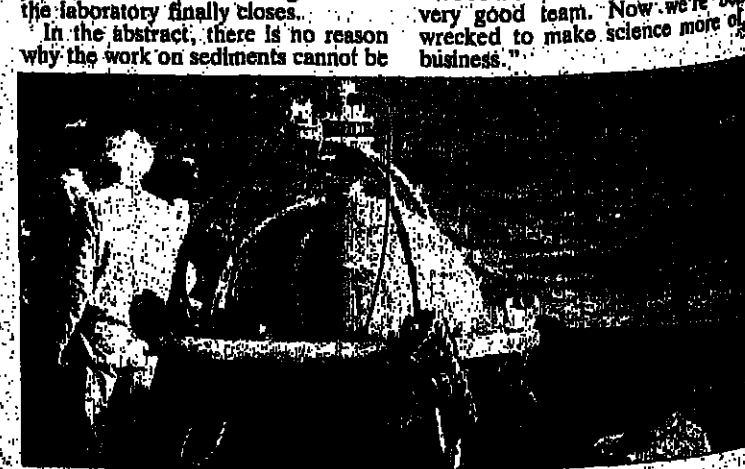
done at Bidston. Indeed, it is near the nuclear plant at Windscale which has been the subject of a number of the group's studies on dispersal of radioactive effluent clinging to mud particles. And other work on coastal protection is not tied to a single site. But those left fear the group's weakness will become an excuse to stop work on sediments altogether. Dr Dyer says the work needs "an injection of faith" for a couple of years, but all NERC staff are wondering if their areas can survive.

The outlook is little better for applied work on waves, where Taunton staff are to join groups doing similar work in Surrey. Dr Ted Pitt, who began work for the NERC at the Surrey site before coming to Taunton, will now return, one of the few who will make the transfer. He appreciates the wish to have all the council's work on waves under one roof, but worries that key instrument technicians are being lost, as well as wave analysts who have already left. Like many in the IOS, he foresees eventual centralisation of the whole institute in Surrey, a long way from the oceanographic dream of a new establishment somewhere on the coast.

The Taunton saga will be over by the autumn, when the buildings will pass into the keeping of the much larger Admiralty surveying establishment which overlooks the NERC lab. Keith Dyer's forthcoming textbook on ocean sediment will be the Institute's epitaph, as he puts it.

The hope is that the further restructuring the NERC has in mind will bring greater benefits than the changes in the IOS. Staff at Taunton stress that in the real financial gain from the closure. Although this was admitted, the eventual message was "they were going to shut us down and that was that", while the larger changes in the British Geological Survey over the last few years have not been so damaging to morale, the Taunton case shows how easy it is to undermine research groups which are hard to build up.

It has also left a residue of bitterness which will harden the trade unionists' resolve in battling over future closures. One long-time worker at Taunton who will not be moving, says gloomily: "We're a small unit, and we've been very good team. Now we're being wrecked to make science more of a business."



Pop-up buoy used in oceanographic research

In the social sciences only one figure comes near the influence of Marx... Anthony Giddens assesses the enormous task facing the great man's new editors

Weber was a voluminous writer, who contributed many ephemeral pieces to weeklies and daily newspapers. Why bother to attempt to collect together all this material some six decades after their author's death? A full edition of Marx's writings can perhaps be justified, given the practical influence these have had upon 20th century world history. But is Weber quite in the same league, his immense influence in social science notwithstanding? In the view of Wolfgang Mommsen and his fellow editors there are several reasons why these questions should be answered in the affirmative. A good deal of Weber's output has never been published - according to Mommsen not far short of 20 per cent of the material that still exists. Thus some 3,000 of Weber's letters were preserved by his wife, Marianne, together with a range of other writings. Many of these are of course of trivial importance. But they do contain texts which are invaluable in illuminating aspects of Weber's more significant works.

Every effort will be made to establish precisely the dates on which particular texts, or versions of particular texts, were actually written. This will allow a far more precise evaluation of Weber's thought both with regard to politics and with regard to sociological thought than has hitherto been the case. The intention of the editors of the project is to produce a complete "critical edition" of Weber's writings. Many of Weber's publications first saw the light of day in a sporadic way, or were assembled posthumously. The editors will both seek to correct lapses in the existing texts and to supply detailed analyses of their provenance.

In the case of Weber's two most renowned works, *The Protestant Ethic* and *Economy and Society*, this will pose very considerable problems. The first of these was originally published in no less than three different versions, as two sets of articles and then subsequently as a book. These will all appear in the collected edition, but a rigorous attempt will be made to assess the relation of each to the others. One can only wish the editors luck in this enterprise, as in the even more formidable task of sorting through *Economy and Society*. Although published by Weber's executors as an integrated work, a good case can be made to the

effect that it consists of several quite different segments, which Weber never intended to be closely connected with one another. The methodological section which introduces the existing version of the book is a reworking of earlier articles, perhaps not even intended by Weber for publication. The lengthy discussion of religion may have been conceived as a self-contained work. Certainly it was written at quite a different period from the famous sections on the state and authority. Given that these matters are highly contentious among Weber scholars it will be interesting indeed to see how the editors of the new project intend to attempt to resolve them.

The massive size of the undertaking to produce the collected edition can be gauged from the time that it will take to bring it to a successful conclusion. The project will occupy the organizing group for the next 15 years. Some 30 main volumes will be produced, together with seven volumes of letters and perhaps some collections of Weber's lecture notes. Naturally, such a project necessitates an enormous investment from the publisher. The volumes produced so far are of beautiful quality - although their purchasing price is also correspondingly high, and most scholars will want to persuade their university library to order them rather than investing in them themselves. Mohr, Weber's publisher in his lifetime, is also the house responsible for the new edition. There can be no doubt that for the publisher as for the academic editors the project is something of a labour of love rather than a purely commercial proposition - surely a phenomenon distinctly unusual in the publishing field.

Of the three volumes which have appeared thus far, easily the most interesting is that concerned with Weber's political writings (and edited by Mommsen). Weber was always insistent that academic activity should be kept protected from the buffeting of politics. The propagation of political views, according to him, has no place in the university, which must be single-mindedly dedicated to the impartial assessment of knowledge. But this did not mean that intellectuals should eschew political activity. Weber himself sought to play both roles in the most energetic fashion possible. The psychological analysis that he deeply into his teaching career did not stop him being actively engaged in the political arena for the greatest part of his adult life. When, at a young age, he was elected to a chair at Freiburg - his insistence on the "purity" of the academic sphere notwithstanding - he chose to deliver an inaugural address of a directly political character. Towards the end of his life he came

between Weber's ideas and the subsequent rise of fascist ideology. Some of the issues raised by Mommsen came to the fore at the conference, especially in the lectures delivered there by Raymond Aron and Herbert Marcuse. Marcuse in particular produced a stinging diatribe against Weber's pernicious influence, drawing in some part on Mommsen's book.

The debates surrounding Mommsen's interpretations have lost their pungency with the further passing of time and Mommsen himself has come to be accepted as a supporter of Weber rather than a critic. In fact he has been one of the main initiators of a massive new project concerned with Weber: the preparation of a *Weber Gesamtausgabe* - a complete edition of the great man's writings. The project has proved as immediately controversial as everything connected with Weber seems to have been. The first three volumes have now appeared but have not thus far elicited a happy reception in Germany. One notable author, Wilhelm Hennis, himself a well-known Weber scholar, has dismissed the whole project as of no great value, likely to disclose little that is new about Weber's work. Other reviewers have not been much more charitable. Yet the collected edition is supported and organized by some of the most distinguished interpreters of Weber in addition to Mommsen.



Maximizing Weber

democracy for their own sake. But he came strongly to advocate the need for a push towards democracy in Germany as a necessary element of a state which could respond to the pressures of the modern world. For Weber democracy has to be combined with strong political leadership in any state with pretensions to being among the leading powers - the very emphasis which Mommsen got into so much trouble about when he suggested a connection to subsequent National Socialism. Whether such a suggestion commands any credence or not, Weber's observations on the origins, and the travails, of democracy have as much cogency now as they had when they were originally penned.

The volume also contains his observations about the development of democracy and then of socialist revolution. In Russia and a renowned assessment of the likely prospects of socialism in general. It was these interventions among others that so deeply alienated Weber from the left of his day. Anyone of left or liberal inclinations reading these today will no doubt come away with more mixed feelings than Weber's political adversaries had at the time. For intermingled with the sharp denunciations of radical politics we find analyses of the most present kind in relation to subsequent developments. Even the most fervent of socialists today has to accept that the threat of bureaucratic state despotism, signalled by Weber as closely involved with the advance of socialism, is a fundamental issue to be confronted by anyone attempting to promote basic social reform.

There are no plans in the immediate future for an English translation of the Weber collected edition. No doubt it will never be translated as a whole. For anyone with sufficient interest in Weber to want to delve deeply into the details of Weber's writings is likely to be able to do so in the original. Those with a less scholarly concern with Weber's work already have a range of translations of his major writings available to them. Therefore it is to be hoped that at least some libraries in the English-speaking countries will be prepared to entertain the expense of buying the new German edition in its entirety.

It will be a completely indispensable source to everyone seriously involved in Weberian scholarship. For in the end I think the critics of the project to be mistaken. It may be that the collected edition will not turn up anything dramatic that will cause us to revise all our previous interpretation of Weber's work. It is not even likely to make for any significant reduction in the ramorous debates which continue to surround Weber's ideas. But it is certainly going to help shift the ground of those debates. No one who does not have access to it will be able in future to write with authority about the nature or development of Weber's ideas.

Weber was never a "liberal democrat" by convention - that is, he did not advocate values of parliamentary

to play more and more of an active part in politics. During the First World War he produced a wide variety of political journalism, and in the short period between the ending of the war and his death he made a variety of important political speeches. For the whole of his life he was preoccupied with the need of Germany to forge a position as one of the leading world powers. An encyclopaedic writer, whose knowledge of civilizations outside of the West was remarkable, some of the most general themes in his work connect in a very direct way with his specific political preoccupations. His last will be interesting indeed to see how the editors of the new project intend to attempt to resolve them.

The massive size of the undertaking to produce the collected edition can be gauged from the time that it will take to bring it to a successful conclusion. The project will occupy the organizing group for the next 15 years. Some 30 main volumes will be produced, together with seven volumes of letters and perhaps some collections of Weber's lecture notes. Naturally, such a project necessitates an enormous investment from the publisher. The volumes produced so far are of beautiful quality - although their purchasing price is also correspondingly high, and most scholars will want to persuade their university library to order them rather than investing in them themselves. Mohr, Weber's publisher in his lifetime, is also the house responsible for the new edition. There can be no doubt that for the publisher as for the academic editors the project is something of a labour of love rather than a purely commercial proposition - surely a phenomenon distinctly unusual in the publishing field.

Of the three volumes which have appeared thus far, easily the most interesting is that concerned with Weber's political writings (and edited by Mommsen). Weber was always insistent that academic activity should be kept protected from the buffeting of politics. The propagation of political views, according to him, has no place in the university, which must be single-mindedly dedicated to the impartial assessment of knowledge. But this did not mean that intellectuals should eschew political activity. Weber himself sought to play both roles in the most energetic fashion possible. The psychological analysis that he deeply into his teaching career did not stop him being actively engaged in the political arena for the greatest part of his adult life. When, at a young age, he was elected to a chair at Freiburg - his insistence on the "purity" of the academic sphere notwithstanding - he chose to deliver an inaugural address of a directly political character. Towards the end of his life he came

between Weber's ideas and the subsequent rise of fascist ideology. Some of the issues raised by Mommsen came to the fore at the conference, especially in the lectures delivered there by Raymond Aron and Herbert Marcuse. Marcuse in particular produced a stinging diatribe against Weber's pernicious influence, drawing in some part on Mommsen's book.

The debates surrounding Mommsen's interpretations have lost their pungency with the further passing of time and Mommsen himself has come to be accepted as a supporter of Weber rather than a critic. In fact he has been one of the main initiators of a massive new project concerned with Weber: the preparation of a *Weber Gesamtausgabe* - a complete edition of the great man's writings. The project has proved as immediately controversial as everything connected with Weber seems to have been. The first three volumes have now appeared but have not thus far elicited a happy reception in Germany. One notable author, Wilhelm Hennis, himself a well-known Weber scholar, has dismissed the whole project as of no great value, likely to disclose little that is new about Weber's work. Other reviewers have not been much more charitable. Yet the collected edition is supported and organized by some of the most distinguished interpreters of Weber in addition to Mommsen.

democracy for their own sake. But he came strongly to advocate the need for a push towards democracy in Germany as a necessary element of a state which could respond to the pressures of the modern world. For Weber democracy has to be combined with strong political leadership in any state with pretensions to being among the leading powers - the very emphasis which Mommsen got into so much trouble about when he suggested a connection to subsequent National Socialism. Whether such a suggestion commands any credence or not, Weber's observations on the origins, and the travails, of democracy have as much cogency now as they had when they were originally penned.

The volume also contains his observations about the development of democracy and then of socialist revolution. In Russia and a renowned assessment of the likely prospects of socialism in general. It was these interventions among others that so deeply alienated Weber from the left of his day. Anyone of left or liberal inclinations reading these today will no doubt come away with more mixed feelings than Weber's political adversaries had at the time. For intermingled with the sharp denunciations of radical politics we find analyses of the most present kind in relation to subsequent developments. Even the most fervent of socialists today has to accept that the threat of bureaucratic state despotism, signalled by Weber as closely involved with the advance of socialism, is a fundamental issue to be confronted by anyone attempting to promote basic social reform.

There are no plans in the immediate future for an English translation of the Weber collected edition. No doubt it will never be translated as a whole. For anyone with sufficient interest in Weber to want to delve deeply into the details of Weber's writings is likely to be able to do so in the original. Those with a less scholarly concern with Weber's work already have a range of translations of his major writings available to them. Therefore it is to be hoped that at least some libraries in the English-speaking countries will be prepared to entertain the expense of buying the new German edition in its entirety.

It will be a completely indispensable source to everyone seriously involved in Weberian scholarship. For in the end I think the critics of the project to be mistaken. It may be that the collected edition will not turn up anything dramatic that will cause us to revise all our previous interpretation of Weber's work. It is not even likely to make for any significant reduction in the ramorous debates which continue to surround Weber's ideas. But it is certainly going to help shift the ground of those debates. No one who does not have access to it will be able in future to write with authority about the nature or development of Weber's ideas.

The author is a fellow of King's College, Cambridge.

Getting ahead with the hard sell

The Natural Environment Research Council has to get out there and sell. Its new corporate plan makes it clear the nation's environmental researchers must become more commercially minded. With income from both the civil science vote and commissions from government departments set to decline, the council's aim is to find new customers for its expertise. It is a path the other research councils may soon have to follow.

The man doing the selling is Dr Keith Harrap, director of the NERC's research marketing group. A scientist himself, he recognizes that not all his colleagues welcome the new demands made on them: "There are some scientists in NERC who don't like my sort of thinking," he says. Dr Harrap regards the NERC as a microcosm of the British scientific community in this respect. With many of its researchers captivated by the "Nobel Prize syndrome".

But he is adamant that a patent must be as good as a paper. He has had news for the scientists who think if they can just weather the coming bad patch, the good old days of curiosity-oriented research will return. It is up to the scientists to generate the wealth base which will fund the other research they want to do, he insists.

Dr Harrap came to the council's Swindon headquarters after a successful career as a microbiologist in the NERC's Institute of Virology, in Oxford.

He joined the research marketing group in 1982 when it was about to be reconstituted as a key division of the council's central administration. Today its role in securing the NERC's future is more crucial still. To help, he has agents in Brussels and Washington, and he hopes soon to be represented in South East Asia. The council reckons there are markets for

many of its scientists in the developing world.

One NERC institute which has already proved this is the Institute of Hydrology in Oxfordshire, which has built up unrivalled expertise in the movement of water through the soil and between ground and air. The institute's consultancy service is used widely by engineers working on projects in Britain and overseas and is to some extent a model for the way Dr Harrap would like other NERC establishments to develop.

This work now brings in £500,000 a year, around a quarter of the Hydrology Institute's income from contract work, and brings the laboratory's income from outside commissions to well over half its annual budget. That itself may be a problem, as pushing the short-term work much higher could threaten the viability of some of the longer-term projects needed to underpin the institute's overall programme.

But there will be pressure to go higher as the council's corporate plan sets a target of 30 per cent a year of the total expenditure to come from commissions for applied work by 1990. Since the total includes university grants and central services and administration, individual institutes will have to raise their commissions well beyond 30 per cent of income. And some, like the Institute for Terrestrial Ecology, or Dr Harrap's old home the Institute of Virology pull in relatively little in commissions today. There will be pressure on them to do better, but there is also bound to be pressure on the successful contract-winners to try even harder.

Over time, this will alter the overall balance of work within the council, Dr Harrap again. "If you are looking at business opportunities, you've got to be prepared to change your objectives," he stresses that there will be a balance in

drawing up the NERC's new list of priorities between what the market seeks and what the researchers want to develop.

Another strategic preoccupation is exploiting the inventions made in council-backed work. Its intellectual property. The environmental sciences depend heavily on specialized instruments and NERC institutes have an abundance of skills for developing lucrative new devices. The best current example is the sea-floor sonar scanner, Gloria, developed by the Institute of Oceanographic Sciences, much in demand by the Americans.

Dr Harrap looks forward to the disappearance of the British Technology Group's responsibility for research council work as "an opportunity to do something more dynamic". The council is talking to leading private sector brokers to work out where to go next, and is also discussing links with private companies who have come to Swindon seeking deals modelled on the medical research council's initial tie with the biotechnology company Celtech.

The research marketing group also finds the Treasury's rules on spending money in a specified financial year irksome, and may look toward setting up privately funded holding companies to act as marketing agents for different sectors of NERC work.

If these ventures all work, the commercial side of the NERC will be several jumps ahead of the other research councils, and stands a chance of helping support the "spin-off" research which also needs to carry on. If not, the prospect is of higher staff losses than already planned, and more laboratory closures, or perhaps sell-offs. The NERC's chairman, Mr Hugh Fish, has said he is not looking for privatization of any individual establishments, but he does not rule it out either.



New lyrics to the battle hymn of the republic

As predicted, the political and ideological lines in Washington are now sharply drawn. And the spotlight is on higher education. The ultimate fate of Reagan administration proposals for colleges and universities, as well as for the students that attend them, is anything but certain.

In his 1986 budget, President Reagan proposed severe cuts for higher education. The biggest budget savings would come at the expense of students. It is estimated that virtually all of the more than five million students now receiving federal grants or loans would face some reduction and approximately one million students would lose all federal aid. Students whose families lack financial resources would likely be hardest hit, with their choice of institutions limited substantially. Many middle-income students would be totally removed from eligibility for both grants and loans.

Federal budget director Mr David Stockman justified these drastic reductions by saying they were needed to "correct policy and budgetary impacts of an unrestrained 20-year binge". The document said the aid programmes "indiscriminately sprayed assistance at students regardless of income for almost any conceivable type of education". Mr Stockman also said that the nation's colleges were not worried about "students" or "equity" but about "financing their budgets".

In sharp response, the heads of several higher education groups told Mr Stockman: "You're right about one thing. College administrators are indeed worried about financing their budgets, as well they should be, just as you undoubtedly are worried about financing yours, as well you should. More than anything, Mr Stockman, educators are concerned about their students. That's why they are educators. More than anything, after the welfare of their students, educators are worried about equity. That's why, with their advocacy and congressional action, we have equal educational opportunity in this country, buttressed by the student-aid programmes that you would cut back."

"We are surprised and chagrined that you would seek to ascribe selfish motivations to educators who defend this nation's advances toward equalizing opportunity and inviting the least among us, in terms of financial well-being, to share in our national resources and our future."

President Reagan, like Mr Stockman, has stated that federal student assistance must be reserved for the needy, but higher education representatives fear that such a policy would result in a drop in enrolments overall, hurt already financially burdened institutions, and shut the

doors of some private institutions that now barely survive.

Mr William Bennett, the recently confirmed Secretary of Education, heated up the debate with his strong support of the president's proposed cutbacks and also with his confrontational approach to higher education. In his first news conference as secretary, Mr Bennett said that some students now receiving federal aid would have to consider giving up stereotypes, automobiles, and "three weeks at the beach" in order to pay for their college education. Mr Bennett said he had "some problems with the notion" that government is responsible for assuring that "every student can go to the college of his or her choice".

Mr Leon Botstein, president of Bard College in New England, joined the debate, attacking both the style and substance of the new secretary's position. Mr Botstein wrote in the *New York Times* that "by trying to strip higher education of its concepts, he trivializes its importance. Better college education for the largest number of Americans is as crucial to the national welfare as any weapons system on the drawing boards. Colleges need better management and tougher curricula, but we also need a secretary who does not bludgeon educators and offer caricatures of education. By seeking to convince lawmakers and the public to cut spending, Mr Bennett discourages young people from reaching for the best possible education - not just what their parents can pay for."

Congressional lawmakers have also voiced strong opposition to the president's proposals. Republican leaders on the key higher education committees - Senator Robert Stafford and Representative James J. Jeffords, both of Vermont - have added strong protests to the expected outcries of democratic leaders. Even lobbyists for interests other than colleges and universities volunteer to lawmakers: "whatever you do, don't pull back on student aid".

"While everyone agrees that there have been abuses in student aid (giving help to students really not in need of aid, for instance), and also that there has been some bureaucratic mishandling of programmes (failing to crackdown on loan defaulters to the extent necessary), there still is enormous support for the notion that student aid has been an extraordinarily wise federal investment."

After decades of defining higher education as a public good and encouraging both student access and choice, administration leaders are now challenging both. The federal role in education, which has come to be viewed as fundamental to both individual development and to the well-being of the nation, is now questioned. The urgency of the debate is clear and the outcome will affect dramatically the future of higher education and the nation.

Putting some HEART into the matter

Narrative was the theme of this year's Gregynog conference organized by Cardiff's Higher Education Action Research Team (HEART) and held at the university's mid-Wales centre shortly before Easter. After last year's foray into managerial territory with the theme "the experience of higher education", the organizers returned this year to the more literary preoccupations typical of earlier Gregynog meetings. Their report follows - a narrative on a narrative...

Five people are sitting around a table. Lunch is just over - it remains still strewn the table. The group is attempting to review the conference it has recently organized, from March 15-18 at the University of Wales conference centre, Gregynog Hall.

A: Can I begin with a difficulty? I don't understand why we are producing this review. I quite understand that Peter Scott could hardly review a conference where he was himself a performer: but why I can't see what we have to say nor whom we hope to reach. I see no way of producing a review which would represent the various relationships of the conference satisfactorily.

Even supposing this conversation were being tape-recorded... our individual voices would hardly give much sense of a conference where people drew, acted, sang, wrote poetry. Moreover, the range of individual voices gathered there was pretty limited. There were no scientists and few outsiders the charmed circle of literary studies. How do we reach these absentees, if that's what we want, to make them want to come next year?

B: Suppose we started, as if we were producing copy for one of the important papers. You remember what Peter said: "Editors always cut from the bottom. Get rid of your flashy academic ideas about long sentences and arguments beautifully poised until their closing moments. Everything in the first 35 words and the rest is decoration."

C: You mean, a catchy one-liner like "Sleazy academics blow taxpayers' money in weekend of high living."

D: Do you mean, C, that we should deliberately play to the prejudices of the gallery? Confirm their view of universities, and of the arts in particular, as a bunch of poncey longhairs playing at representing the consciences of other people?

C: Something like that. How else could you get them the image of academics sitting on the floor about a large sheet of squared paper, taking turns to ink in the squares so as to make an illustration for the opening of Jan Morris's book on Venice? Or that delightful group grope on the floor, holding hands in a circle with the lights off and had to pass a story on (not quite mouth-to-mouth resuscitation...)

D: Maybe your one-liner ought to read: "Dirty weekend for the dons in darkest Wales."

A: This very playfulness of yours is part of the problem. It isn't enough to let the outside world - including the readers of *THE THES* - receive the false impression that we turned our backs on real problems in favour of a carefully stage-managed regression to the kindergarten.

If you remember, I did some preliminary legwork to try and attract some of the scientists. Their reactions varied from the politely incredulous to the covertly hostile. "What kind of package are you offering?" they said. "What aims? What methods? What anticipated results?" I felt so foolish.

All I could say was: "It should be educational. 'Narrative'?" they said, "what's that got to do with us? How do we sell that to our heads of department?"



B: One of the more ambiguous consequences of the limited group who came seems to me that people left questions like that on one side at an early stage in the proceedings and just got on with producing narratives of various sorts. We might have done more with those narratives by way of conclusion than we did.

C: I get the sense that both of you are opposing playfulness in the name of clear goals and clear purposes; and I really must say something about that. Why does it have to be an either/or situation? Take the talk we heard on *The Literary Labyrinth*: a book designed, if any were, to confirm the worst fears of the *Telegraph* reviewer about the future of English literary studies.

What I remember of the talk makes me think the book had clear, if covert, political and social aspirations: at the same time, what made me laugh was the sheer playfulness of the whole exercise. The two readings don't cancel one another. In that sense, I see the book as a kind of metaphor for the conference as a whole.

But I do think that the concept of playfulness actually needs reinstating; playfulness as an alternative way of seeing, with its own logic and laws. We sell out if we accept the slide rule and the log tables as the measure of literary studies - and maybe of others as well.

E: All very well, but I can't accept your idea that playfulness is a sufficient measure of itself. Let me remind you of the postgraduate manifesto - if I can call it that - from Kent, the one called "narrating a future". That made a powerful impression on me when I heard it. It confirmed my sense that the capacity to imagine a future - and what else were we doing? - imposes a duty on the seer to work towards the realization of his dream, for everyone.

What I mean is, that you must acknowledge the politics of your own playfulness and work with it. This, may I say, is not the message I expected to receive from the conference: nor the message that too narrow a concentration on playfulness would deliver.

D: The question, then, seems to be: "How to translate the insights of the conference into meaningful action?" For me, an answer came - and the high point of the conference - in the talk about that highly original solution to the problem of processing information for a thesis.

The writer split himself into two voices, both the voices of real people - himself and the director of the agency funding his research. The one was committed precisely to the slide-rule economics of funding; the other to working in the field, alongside the subjects of his research. (And can I also say that the form of that thesis seems to me as good an image of the overall thrust of the conference as the different styles and voices of *The Literary Labyrinth*?)

I can really feel for the examiners. They must have felt as if they'd suddenly exchanged a black-and-white for a colour television.

A: But you wouldn't reckon all these should now be presented in the form of dialogues, letters, plays, novels, would you?

D: Of course not. That would merely be replacing one orthodoxy by another. But I do think, if we are prepared to acknowledge the limitations of our own methods - within the privacy of Gregynog, or a review in *THE THES* - we have to look seriously at the alternatives.

Such a conference could never simply be about play: Christmas Day in the

trenches with plum pudding and a soccer match afterwards. You simply can't separate the act of narrative from the teaching of narrative (yes, even scientists, though how they would wish to define the narrative elements of their work, if at all, we never did find out) or from your own experiences inside and outside the classroom, on and off the page.

C: Let me remind you that this wasn't a conference as such, but, on the model of previous ventures in the field, "a collaborative enquiry". Not an agenda but a set of questions; not experts but a group of collaborators, staff and students together.

I don't suppose the publication of a small volume of poems produced at the poetry workshop represents a measurable contribution to the theme of the conference; but for me, the image of academics in a mini-collective, Xeroxing, collating and stapling their work for the rest of us to see - at least, they would have stapled it if the stapler hadn't broken - is as good a sign as any of the outcome of the conference.

D: I also take as a sign of its success, what B seems to deplore, its lack of formal conclusions. I was really moved by the way the groups worked on Sunday with the story I gave the leaders on Friday. When the groups returned to me in full session on Monday - one made a ballad of it, one a thriller - it was like being given back several versions of myself; it was really enriching.

B: What I mean about lack of formal conclusions came up with the other exercise, when a story passed from person to person throughout the conference and had eventually to be reconstructed from the many written copies of every fifth retelling by the person who heard it last of all.

That exercise raised all sorts of fascinating questions - about the force of aural memory in a preliterate society and its relative atrophy in our own (how much we couldn't remember of the stories we heard, even the name of the hero, for goodness sake!); about our tendency to move from a concrete to an archetypal situation as we retell the story (you remember, the wanderer became quite early on a woodcutter on the estate and stuck there); but we just didn't have time - or, by then, energy - to take up these questions.

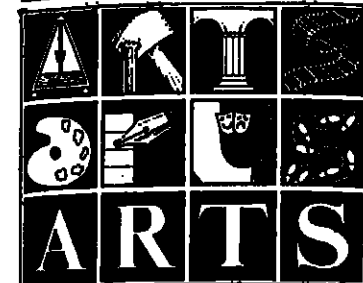
C: Yes. It is possible that we overloaded the play school with too many activities. But what was exciting was the sheer amount the groups managed to cover.

A: I don't think we're any nearer writing the report than when we started.

B: Well, whatever else we do or don't say, I think we should tell about that very moving story from El Salvador. Do you mean, the story of the young union man killed and dismembered, whose friends forced the murderers to assemble the body like a man and ask forgiveness of it and then released the murderers unharmed so as to break the cycle of violence?

B: Not that so much as the way, in that desperate situation, literature came into its own. In the face of that horror, the writer felt it wasn't enough to be a poet. And didn't the people tell her: "Never be ashamed of being a poet; in prison, on the battlefield, poetry helps to lift the spirit when waiting is terrible. The world for which we are fighting cannot be without poets."

D: That might be a good way to end the review, whatever we do or don't put in the middle.



Events

Continuing exhibitions:

To April 20. Triangle Centre, Aston University. *Down and Out in Paris and London*: photographs by Chris Schwarz.

To April 21. Perens Gallery, Hull. Peter Dowling 1784-1849: landscape painting.

To April 21. Kettle's Yard, Cambridge. Edward Wright: graphic work and painting.

To April 27. City Museum and Art Gallery, Bristol. Prints by Manet.

To April 27. John Hansard Gallery, University of Southampton. Photographs by Josef Koudelka.

To April 28. City Gallery, York. *Working with Colour*: paintings by Bridget Riley.

To April 28. Victoria and Albert Museum, London. William Stalton Murray: studio pottery of the 1920s and 1930s.

To April 28. Walker Gallery, Liverpool. *The Birth of the Ark Royal*: an exhibition exploring aspects of Chabré Harcourt's famous photograph. Also, German expressionist prints.

To May 4. Mappin Gallery, Sheffield. *The British Art Show*.

To May 4. Harris Museum, Preston. *Still Life: a new life*.

New exhibitions:

From April 19. Museum of Modern Art, Oxford. Late de Chirico: paintings, sculpture, drawings and graphic work 1940-76.

From April 19. City Art Centre, Edinburgh. *Munch and the Workers*.

From April 19. Hutton Gallery, Newcastle upon Tyne. *Matia: the logic of hallucination*.

From April 19. Impressions Gallery, York. Colour Photographs from the Farm Security Administration 1935-1942.

Events:

April 15 to 20. Riverside Theatre, New University of Ulster. Theatre Ulster presents *That Woman at Rathard* by Sam Hanna Bell.

April 18 to May 11. Control Theatre, University of Manchester. Sophocles' *Oedipus Rex*.

From April 19. Triangle Centre, Aston University. Joint Stock presents *Deadlines* by Stephen Wakelam.

April 24. Theatre, University of Essex. Not the National Theatre presents *The Caretaker* by C. Pinter.

April 24 to 27. Arts Centre, University of Warwick. The Kenilworth Gang Show.

Theatre of the unexpressed

Martine

by Jean-Jacques Bernard
Lyttelton Theatre
previews from tomorrow; first night April 20

"To name is to destroy. To suggest is to create." Wishfully ascribed to Shakespeare, Jean-Jacques Bernard's *Martine* is a play that evokes the aims and means of the French theatre's *école du symbolisme*, which his plays helped to found after the First World War. Unaware, it seems, of Chekhov and Stanislavsky, Bernard and his associates sought to develop a drama free of bluster, pomp and heroes, a "theatre of the unexpressed" in which the Symbolists' understanding of the space

between and behind the spoken word could be applied to the "little murders" of everyday experience.

Bernard's father Tristan was a slick and popular boulevard playwright; a fabricator of the good-natured, bourgeois comedies of intrigue that it became mandatory for the avant-garde to reject after Ibsen. His son purged plots of their artifice and dialogue of its polish, but a few paternal tricks survived. In *Martine*, first produced in 1922, the discreet skeleton of a well-made play ensures that incoherence remains on the level of the individual utterance, rather than of action.

A young journalist returns from the war to his grandmother's village. He sports for a while with the affections of the wordlessly intense farm-girl Martine, only to drop his fantasy of a porcelain shepherdess on the arrival of his well-bred, poetry-reading fiancée. Class proprieties are restored, and Martine condemned to a lifetime of Alfred. Chekhov's formula fits exactly: people are having a meal at table, just having a meal, but at the same time their happiness is being created, or their lives are being smashed up.

Highly regarded on the interwar London stage, the play also gave Madeleine Renaud a much-admired leading role at the Comédie Française in the thirties. With a new translation by John Fowles, and a production by Peter Hall, the National's choice reaffirms one of its most politically and



Dublin comes to London bearing gifts in the form of an exhibition of paintings on loan to the National Gallery. Works by Titian, El Greco, Goya, Rembrandt hang side by side with works by the lesser known, giving almost the impression of a voyage of discovery, adding a new dimension of excitement to the exhibition.

Among the painters, there is a fine *grisaille* (a monochrome painting executed, as the name suggests, entirely in greys) by Andrea Mantegna - in the opinion of some scholars the work is not by Mantegna or perhaps only from his workshop - representing a subject from the Old Testament: *Judith With the Head of Holofernes*. Having severed the head of the Assyrian general, Judith, assisted by her servant, is about to hide it in a sack to smuggle it out from the enemy camp. In the background, the corner of a bed and on it the bare sole of a foot: this is all that can be seen inside the tent, but the gruesome implication is even more terrible than what is fully on view.

The unusual detail also relates to the daring foreshortening used by Mantegna in the famous *Dead Christ* now in Milan, dated by most scholars at the same time (about 1490) or earlier than the *grisaille*. Judith was a popular subject in Renaissance Italy, primarily because she also symbolized the fight for freedom: Donatello and Botticelli are among the contemporaries of Mantegna who depicted her.

Mantegna himself made several versions, including a painting, drawings and another *grisaille* (now in Montreal).

Sanda Miller

"Masterpieces from the National Gallery of Ireland" is at the National Gallery in London until May 27.

Perpetual motion

Edward Lear
Royal Academy of Arts
from April 20

Edward Lear hated painting: "No life is more shocking to me than sitting motionless like a petrified gorilla as to my body & limbs hour after hour - my hand meanwhile, peck peck pecking at billions of damnable little dots & lines..." Lear is best known for his Nonsense, the seafaring owl and pussycat, or the Jumbles who went to sea in a sieve. But his profession was painting, and for a man who said he disliked it so much his output seems remarkable - at least nine thousand watercolours and three hundred oil paintings.

Lear travelled widely, to Crete and Jerusalem, to Egypt and India, in quest of paintable scenes. He specialized in carefully composed topographical views, hand-painted postcards from exotic places. He had no formal training as an artist, and never mastered the human figure. But Lear took his art seriously, and worked up several of his travelling sketches into large-scale oils for submission to the Royal Academy's Annual Exhibition. But he was a landscape painter in an age when the public wanted sentimental narratives, and most of the large paintings were hung badly and went unsold. In 1850, when he was 37, Lear won gained admission to the Royal Academy as a student in quest of "academic" respectability, but the prospect of a ten-year course was too depressing so he returned to his travels.

Almost a century after his death, the Royal Academy is making amends for earlier injustices by mounting a major exhibition of his art. Lear once imagined the afterlife in a letter to Holman Hunt: "When you & I go to heaven we won't paint any more, but will sit in Chestnut just & smoke & drink champagne continually." When the Academy's exhibition opens, there will be much celebration in those Chestnut trees.

Like Lewis Carroll, the other king of Nonsense, Lear led a sad and unfulfilled life. His biography is a catalogue of rejections and frustration. The twentieth of 21 children, his mother gave him to one of his sisters to care for, which seems to have left him with an abiding sense of worthlessness. He was called by his mother "the Demon" as he called it; Lear felt that the fates had ordained his unhappy destiny: "Alas! Alas! how fearful a birthright was mine," he wrote in the last year of his life. His homosexual love for a close friend was unrequited, and he never plucked up the courage to ask the girl he loved to marry him. Plagued by ill-health which forced him abroad, the constant threat of poverty and financial rejection, Lear lived the life of a wanderer. Byron had been the

Romantic traveller *par excellence*, alternately melancholic and idealistic. Lear's paintings, with their frequent debts to Turnerian "sublimity", cast him in the Romantic tradition, but he is the Romantic traveller turned Fool, a perpetual tourist with a funny nose.

Even with his friends, Lear felt he was looking in on life from outside. He once wrote to Tennyson that "I feel wondrously like a spectator - all through my life - of what goes on amongst those I know; very little an actor". His diaries are poignant mementoes of a life with no centre. They are filled with hastily scribbled self-caricatures that defuse his rootlessness by turning it into a joke. Lear becomes a globular, bespectacled figure clinging to a porpoise, or dragged up mountains by a goat. On other occasions his rotund caricature-self sprouts wings and takes awkwardly to the air, a clue to Lear's sense of the ridiculous in his life of perpetual motion.

Lear's Nonsense is peopled by endearing freaks who find escape in travel, like the daddy long legs and the fly who reach the great Cromboonian plain. For Lear himself travel was a form of escape, his life a perpetual flight from pain. His landscapes are largely conventional. The best of his watercolours are spontaneously dashed out, but always mediated by pictorial convention, whether plunging dramatically into Turnerian depths, or framed as deliberately as a Claude. Lear's main characteristic seems a love of open vistas - the wide horizon, the lyrical distance - prospects perhaps larger than his own. W. H. Auden's lines on Lear remain the best epitaph:

Left by his friend to breakfast alone
on the white
Italian shore, his Terrible Demon
arose
Over his shoulder; he wept to
himself (in the night,
A dirty landscape-painter who hated
his nose.

Andrew Graham-Dixon



Portrait of Lear by Wilhelm Marstrand, 1840

Being black and loving it

Why has it taken over five years for Ntozake Shange's Broadway hit *Spell #7* to reach London? There are several plausible explanations. Managements may have fought shy of Shange's work after the unenthusiastic reception given here to her better known play for colored girls who have considered suicide when the rainbow ends. Perhaps also the play appeared too early for this country's black theatre movement to regard it as an essential work. But might not another reason be that black theatre groups in this country are at least as resistant to women's theatre as are their white counterparts?

That at least is the suggestion of Sue Parrish, who now directs *Spell #7* for the Women's Playhouse Trust at the Donmar Warehouse. Hesitant at first about taking on a work so thoroughly about black experience (whose overt message is to encourage the feeling of "colored and love it") she responded so strongly to the poetic text and theatrical magic of the piece that she felt it had to be done - and done soon, before it became outdated. In the event, the Trust's decision to present the play has been more than vindicated: it is selling like hotcakes.

Set in a Manhattan bar, it explores through group pieces and monologues the real and imagined experiences of nine talented black people (four men

and five women). The monologues are of varying dramatic force but, as delivered by Claudette Williams, two are really outstanding: one, which deals with a black woman's pathological desire for a child, and the other a bitterly funny speculation on how white women spend their days.

Music, dance and mime are incorporated into the action, and the production achieves a delicate balance in celebrating black talent (as in a perfect four-part harmony rendition of a Motown song) while underlining throughout the way talent as often works against black people's interests as for them.

For Shange fans, of which there are a growing number in this country, the National Film Theatre is tonight showing an American television version of *For colored girls*, made in 1981 for the prestigious American Playhouse slot. Although the piece undoubtedly loses dramatic intensity when its narrative poems are visually realized, still it is an excellent opportunity to see the outstanding performances of the American cast.

Lynne Truss

"Spell #7" is at the Donmar Warehouse Theatre until May 4. "For colored girls" is at the National Film Theatre at 8.30pm this evening.

Wendy Morgan rehearsing for *Martine*

BOOKS

Tudor careers

The Power of the Early Tudor Nobility: a study of the fourth and fifth earls of Shrewsbury
by G. W. Bernard
Harvester, £18.95
ISBN 0 7108 0991 3

The public careers of the fourth and fifth earls of Shrewsbury span the first sixty years of the 16th century, a time when, G. W. Bernard contends, "the nobility was the most important, the most influential and the most powerful segment of society". The inadequacy of the records has prevented him from writing straight biographical accounts; he looks instead at certain crucial episodes in his subjects' political lives, assesses their military undertakings and discusses the economic resources upon which in the last instance their authority depended. Then in a very valuable final section he places their family - the Talbotts - within the context of the nobility as a whole and considers in some depth the participation of these magnates in all aspects of early Tudor society.

The chance survival of a cache of private letters for 1516 has made possible an ingenious reconstruction of an incident in the political career of George, fourth earl of Shrewsbury when he apparently used a diplomatic illness to disassociate himself from Wolsey's plans for an alliance with the Habsburgs. Loyalty to the monarch, nevertheless, seems to have been Shrewsbury's guiding principle, as he signally demonstrated in 1536 during the Pilgrimage of Grace when he rallied the northern gentry against the rebels and so helped save the Tudor dynasty at its moment of greatest danger. Rather more can be discovered about Francis the fifth earl who succeeded his father in 1538. While continuing his family tradition of conservatism in politics and religion he still contrived to cooperate first with Somerset who advanced him to the presidency of the Council in the North and then with Northumberland before making his peace with Mary with whom he seems to have been ideologically more in sympathy. He died in the autumn of 1560 before he could be required once more to square his religious susceptibilities with his allegiance to the new queen.



This stone statue of Abraham which adorns Chartres Cathedral is by Ruby, one of the sculptors whose work is described in *Chartres: the masons who built a legend* by John James, published by Routledge & Kegan Paul at £7.95.

Tudor warfare has not received a good press from most recent historians, a trend which this book seeks to redress. To members of a ruling elite still educated according to a chivalric code warfare appeared the most prestigious activity in which they could engage and the earls of Shrewsbury complied enthusiastically with the accepted mores. When the royal army went to France in 1513 the fourth earl on his own raised more than 4,000 men for the crown: in each of the next four decades he and later his son served as royal lieutenants in the defence of the English borders against the Scots.

By 1500 the power base of the Talbotts lay in their holdings in Shropshire, Derbyshire and in the part of South Yorkshire known as Hallamshire. With an annual income in excess of £1,700 in the 1530s the two earls seem to have possessed an inheritance more than sufficient to finance their public activities and their domestic comforts. Yet this did not cause them to neglect present prospects and both took advantage of the dissolution first of the monasteries and then of the

chantries to enlarge substantially their Yorkshire and Derbyshire estates. Land may have been as essential to Tudor noblemen for the local patronage it conferred as for the revenue it generated, and in his concluding analysis of the English nobility in the first part of the 16th century Dr Bernard shows how representative of their class the earls of Shrewsbury were. In a hierarchical society noblemen needed the crown to realize their power, but equally the crown needed the nobility to uphold its authority. This symbiotic relationship, despite many previous assertions to the contrary, may have reached its apogee in the reign of Henry VIII. For its restatement of the importance of noble power in 16th-century England, quite apart from its intrinsic interest as the study of a particular noble family, this book deserves to be widely read.

Claire Cross

Dr Cross is reader in history at the University of York.

Models of medieval sainthood

Unquiet Souls: fourteenth-century saints and their religious milieu
by Richard Kieckhefer
Chicago University Press, £22.95
ISBN 0 226 43509 1

Hagiography supplies the medievalist with one of his most copious literary sources, but it poses serious problems for the historian. It is not only that saints are of their nature outsiders, who defy the normal social categories. Because its purpose is didactic, the literature about them tends to deal in stereotypes rather than with real people. The saints transmitted by the hagiographers are often little more than lay figures draped in the religious sentiment of their age. Even where an autobiography offers direct contact with a personality, as is the case with St Catherine of Siena for example, the influence of the stereotype cannot be discounted, for the *Vitas Sanctorum* provided models for saints as well as for ordinary people. But if saints are intractable subjects, hagiography can itself be studied as a source for the religious sentiment or spirituality of a period. Accepted notions of what constituted sainthood are clearly an important aspect of the history of mentalities - the collective assumptions of a given epoch.

This is what Richard Kieckhefer's learned and thought-provoking book has done for the 14th century. A rather similar enterprise was undertaken by André Vauchez's *La Sainteté en occident aux derniers siècles du moyen âge*. But Vauchez concerned himself with official cults and their promotion through the canonization process. Kieckhefer has cast his net more widely. Besides the famous mystics, St Catherine of Siena, St Bridget of Sweden, Julian of Norwich, Suso and Ruysbroeck, he introduces us to a host of lesser known holy people, like Dorothy of Montau, the wife of a German burgher who ended as an anchoress, Gertrude of Delft, for Beguine who experienced stigmata, and Flora of Beaulieu, who went into ecstasy while singing the *Veni creator* and hung levitated three feet above the floor in the night of the nuns.

From the study of these and three similarly paradigmatic authors extricate a number of themes and certain common traits that give a distinctive character to the model of sainthood depicted in the 14th-century hagiography. By contrast with earlier hagiographers, the writers of this period focus attention upon the interior life of the saint, who is depicted less as a figure of charismatic power than as a tormented soul, patiently enduring all kinds of social and economic adversity, and driven by an overwhelming sense of sin to extremes of sado-masochistic mortification. These are the "unquiet souls" of the author's title. They do not share the Franciscan vision of a sacramental universe; on the contrary, they are profoundly alienated from the world in which they find themselves. The commonest objects of their devotion, such as the passion of Christ and the human details of his life, are seen in the light of the traditional for which they are popularized by the preaching of the friars; but they bring to them an intensity of feeling. There is an affective and highly emotional piety, much given to tears, like the "boisterous weeping" with which Margery Kempe so annoyed her respectable church-going neighbours. Their ecstatic mystical experiences leave them restless and frustrated with a sense of spiritual consummation glimpsed but unfulfilled.

C. H. Lawrence

C. H. Lawrence is professor of medieval history in the University of London.

BOOKS

Putting on an act

The Idea of the Actor: drama and the ethics of performance
by William B. Worthen
Princeton University Press, £25.00
ISBN 0 691 06623 X

The subtitle of this book suggests that like James Barrie's *The Admirable Crichton*, to which Worthen generously acknowledges his debt, it is concerned with that peculiar mixture of fascination and suspicion which characterizes the attitude of society, and even of theatre audiences, to actors and actresses. From the Puritan detraction of the stage by men like Prynne and Collier, through Rousseau's distrust of the betrayal of self implicit in the actor's role as impersonator, to Stanislavsky's anxiety to promote a style of acting which is sincerely interiorized rather than an egotistical display for public entertainment, the actor's professional identity excites an unease, and at times hysterical condemnation, which simultaneously testifies to the deep power which he exerts over those for whom he performs. At one extreme of this spectrum the suspicion may seem morally naive, but at the other it

coexists with a highly sophisticated appreciation of dramatic expression. The stumbling block is the theatre. As Worthen remarks at the climax of his argument, "Of all the subtle prejudices that have been held against the actor's art (the vulgarity of emotional display, the duplicity of role-playing), surely the most firmly entrenched is the sense that true art cannot be achieved within the confines of the theatre". But, he adds, "we enjoy the theatre for just this reason. We dare the actor to take this risk, to engage himself strenuously in the baffling project of authenticating the acts of the stage".

What is not clear, however, from Worthen's extremely shrewd and subtle analysis of acting theory and playwrights' mirroring of it in their work during three major periods of the English theatre (Renaissance, 18th century and modern) is what kind of distinction the audience makes, or criticism should make, between drama, theatre and actor. We seem to be moving through a phase of dramatic criticism which is extremely theatre-conscious. We are keenly aware of a dramatic text as a text for performance and of the complex layers of consciousness which are particularly engaged when an audience becomes involved in a successfully absorbing production of a play like *Waiting for Godot* or *Hamlet*. But the actor's professional identity, which constantly provokes on its own sense of theatrical presentation. But is such an audience much concerned with the actor's consciousness of himself and his role? Interest in the ethics of acting is not a specifically dramatic topic until it is incorporated in the dramatic texture, when it ceases

to focus attention on the person who is the actor and becomes instead part of the awareness of illusion to which the actor's role is contributing. To suggest that "we enjoy the theatre" because of our interest in the actor's response to the challenge of combining the authenticity of true art with the necessary demonstrativeness of the theatre is to shift the centre of gravity from where it must lie in the performance of a play to where it more typically lies in, say, a comedian's act or a one-man show. Worthen's study does, however, illuminate the dramatic experience and its changing emphases in the three periods on which he chooses to focus. He is not concerned merely with a history of attitudes towards actors and acting, but, more interestingly, with the relation which can be perceived between them and the plays in which the sometimes praised, but more often castigated, performers take part. This amounts, in effect, to an exploration of the use that dramatists make of the contemporary histrionic consciousness.

Worthen's commentary on *Hamlet* thus becomes a synthesis of the positive view taken by Sidney and the Neoplatonists of imitation as a means of imaginatively realizing human potentiality, and the negative Puritan-Platonic view which sees all things to be "counterfeited, feined, dissembled, nothing really or sincerely acted". *Hamlet* learns from the play, King's "dream of passion" an art of dissembling and a use for theatrical imaging that he can use creatively in his own "antic disposition" and his device of the play-within-the-play, but he is also appalled by its "monstrous" nature and sickened by the role-playing that he perceives in the world of "seeming" into which he has been thrust. "The protean actor concentrates in his own performance the radical ambivalences of Renaissance feigning."

Other degrees of this central awareness are also manifested in brief, but highly suggestive analyses of *Volpone*, *Twelfth Night* and *The Duchess of Malfi*. This section is the best in Worthen's book - partly, perhaps, because it yields the best plays and the ones in which the dangers and delights of acting are given the most effective imaginative correlation with the authors' themes. In the 18th-century section Worthen's theses tend to be more interesting than his dramatic exhibits, the best of which is *She Stoops to Conquer*. There the age's confidence in role-playing as a necessary and benevolent means towards harmony in a stratified society, as opposed to suspicion of the artificiality which corrupts the natural self, finds its equivalent in the antithesis between Mr and Mrs Hardcastle, and it is given comic realization in Kate's stooping to rid Mowbray of his split between feeling and performance. However, the business level of this play makes everything fall out too pat, as if, indeed, the play had been written as a simplified illustration of the theory.

The third section covers the longest period, and its authors include Shaw, Beckett, Brecht and Pinter. The dominant figure, however, is Ibsen. Here the focus of acting theory is on self-realization versus the subordination of self to technique, and this is reflected in the recurrent theme of Ibsen's heroes "caught between an impulse to submit to the security of a comfortable, conventional social posture". This "vital self" cannot be discovered within the box-like stage on which it has to perform, and the climax, as in *Rosmersholm*, is an exit which is at once heroic and defeating. Variations on that defeatist note are played by most of Ibsen's successors, except perhaps Brecht, who frankly accepts "the actor's evident estrangement from his own emotions" and uses it as a didactic weapon. The result is a strangely paradoxical theatre in which the conditions of acting seem to be at odds with the serious purposes of art, and yet art is made out of this frustrating contradiction. Thus in Beckett's "Not I" the actress playing Mouth endures physical constraint to represent the disembodied word, and to represent the disembodying word, and to represent the actor, and with it the loss of self, which is the fear expressed in its drama.

R. P. Draper

R. P. Draper is professor of English at the University of Aberdeen.

Purple praise

A Guide to O'Casey's Plays: from the Plough to the Stars
by John O'Riordan
Macmillan, £30.00
ISBN 0 333 36428 7

Sean O'Casey wrote some 23 plays, but he is generally remembered for just three of them - *The Shadow of a Gunman*, *Junio and the Paycock* and *The Plough and the Stars*. The long series of experimental plays following the extraordinary success of the so-called Dublin trilogy as been seen by many people as a sad, calamitous decline. O'Casey himself reacted furiously against this view and defended his decision to abandon the naturalistic mode of his earlier work: "dramatists cannot go on imitating themselves... they must change, must experiment, must develop their power, or try to, if the drama is to live". It is a good argument and one can sympathize with O'Casey's anger at endlessly repeated critical advice to write more *Junios* or *Ploughs*.

However, for anyone reading through the five volumes of O'Casey's *Collected Plays* (recently re-issued by Macmillan) there is a real problem. How, one may wonder, could the author of these powerful and ironic early plays write something as ponderously pretentious as the expressionist morality-play *Within the Gates* or something as ineptly unfunny as the whimsical farce *Purple Dust*? Two weaknesses seem crucial: O'Casey's increasing commitment to crudely dialectic ideological oppositions - capitalism versus communism, sexuality versus repression - and his adoption of a sharply partisan "poetic" style in place of the sharply individual dramatic voices of the Dublin trilogy. Late O'Casey teaches one the full force of the phrase "a lot of colour".

This is not the way John O'Riordan sees it. He is one of a loyal band of O'Caseyans who deny that there is any slanting off in the level of dramatic achievement in the later plays. O'Casey's experimental drama, he argues, has been "wonderfully understood". This book, a "total study in words" of all O'Casey's dramatic works, with critical commentary, outlines of plot and characterization, is designed to remedy this neglect. Unfortunately the price of all O'Casey's works is high, and his judgements so unimpeachable that the book is unlikely to make many converts. O'Riordan ignores or dismisses details anyone who criticizes O'Casey would cite as evidence, however inapplicable. This not only is



Sean O'Casey

Waste Land, but we have it on the authority of Hugh MacDiarmid, "Scotland's national poet", that "O'Casey's artistry, in this apocalyptic drama, is infinitely deeper and broader than Eliot's, as he scents correspondingly higher, like the legendary lark in the Irish clear air". It is not clear whether this is quotation from MacDiarmid or inspired paraphrase.

Many critics involuntarily mimic the style of their subjects, the syntax of Jamesians turning tortuous and parenthetical, Lawrentians growling perverid and declamatory. But O'Riordan seems deliberately to have chosen to write in a pastiche of O'Casey's poetic prose at its most purple. *Junio and the Paycock*, for instance, is "riddled supremely in comedy, and shot through, as in a mixed media [sic] of kaleidoscopic brilliance and intensity, with tragic overtones, to give superb, ineluctable tragicomic". *Purple Dust* "is unmistakably comedy of a high order, glowing in its heightened lyricism of star-reaching prose". With apologies like this, O'Casey scarcely needs detractors.

The *Guide* is intended for students, stage-directors and anyone else interested in O'Casey, but it is difficult to see who might read it with benefit. It has none of the apparatus of notes and references which an academic reader would expect, and it is not erudite or practical enough to be helpful in the theatre. As a general introduction to O'Casey, James Simmons' little book in the Macmillan Modern Dramatists series is much more valuable. O'Riordan's love for O'Casey and his comprehensive knowledge of the canon are evident, but enthusiastic rhapsody is no substitute for critical analysis.

Nicholas Grene

Dr Grene is director of studies in modern English at Trinity College, Dublin.



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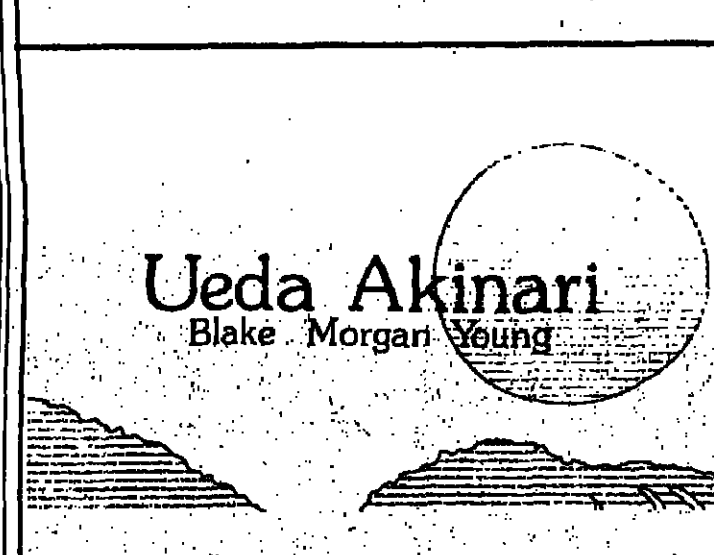
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Paying the tenth part

The Tithes Surveys of England and Wales
by Roger J. P. Kain and
Hugh C. Prince
Cambridge University Press, £27.50
ISBN 0 521 24681 4

In the last twenty years, tithes studies have become almost vogueish. When I began work on the English tithes system the subject was considered a "worthy" one for the PhD student. It afforded huge quantities of unworked source material and the opportunity to cast some light on the murkier corners of ecclesiastical history, well away from the glare of doctrinal division or political polemics. If this material was intrinsically arid and unlikely to be capable of broader development, then this was a disadvantage which should not deter the conscientious research student. He would, after all, have cut his teeth on "the documents"; then he could graduate to better pastures.

How the world has changed. The erstwhile research student made his modest contribution not only to the study of clerical finances but also, as it turned out, to understanding social relationships in rural England before the middle of the 19th century. Meanwhile, much more ambitious tithes-based projects were afoot. European scholars, led by Le Roy Ladurie, were using tithes accounts to chart long-term changes in agricultural productivity. If the records offer a plausible index of

agricultural activity, then they are materials of first importance for understanding such major issues as European economic history as the impact of the Black Death and the nature of the alleged 17th-century crisis.

The present study, the fruit of many years' patient work, is primarily concerned to demonstrate the usefulness of tithes records for the study of agriculture in the middle of the 19th century. The "tithes surveys" of the title are those undertaken by the tithe commission established under the terms of the Tithe Commutation Act of 1836. This Act finally ended the obligation of farmers and landowners to pay the tenth sheaf of corn or - a much more potent visual image as the Rowlandson cartoon on this book's cover demonstrates - the tenth pig in kind to a tithe owner. It divided the country into more than 12,000 tithe districts for which the overall tithe rent charge was separately calculated and then laid individually upon each of the landowners. For each district a map was produced linked to an apportionment. These documents indicated the size and location of each holding, its land use and the amount of commuted tithe rent charge it was henceforth to bear.

Both maps and apportionments have been widely used by economic historians and historical geographers but this is the first integrated study of them. Kain and Prince rightly lay much emphasis also upon the less well known "tithe files". These contain the assistant tithe commissioners' working notes, including estimates of tithe value, recent changes in farming practices and indications of disputes between tithe owner and tithe owner. Since the files heavily featured in many cases are those only in the Public Record Office at Kew, these copies of most tithes and apportionments are available in local county or diocesan

record offices, if it is not surprising that regional historians and geographers have made less use of them. As Kain and Prince amply demonstrate, however, their evidence is frequently vital in building up a composite picture of farming patterns.

This is a most meticulous and beautifully produced codification of current scholarship. Economic and social historians may find little which is new. In the early chapters explaining the nature of tithes and the circumstances leading to its commutation. For historical geographers of 19th-century Britain, however, it will be a godsend. They will find a careful estimation of the reliability of the raw materials available and, most importantly, much the best available statement of the land use, field systems and farming practices of rural England and Wales in the 1840s.

To this happy outcome the publishers have made a substantial contribution. The maps, diagrams and photographic reproductions of tithe commission material are all of first-class quality and they greatly enhance one's pleasure in using the book. It is a pity that the high publication price will deter casual purchasers, but those interested in working on mid-19th-century agricultural history or geography will certainly need to consult it. They will appreciate not only the range of its authors' own work, but also the detailed knowledge of the separate contributions made by others. The appearance of this handsome and firmly demonstrated, should demonstrate that tithes studies have more than earned their corn.

Eric J. Evans

Eric J. Evans is reader in history at the University of Lancaster.

BOOKS

Chinese UCCA forms

China's Universities: post-Mao enrolment policies and their impact upon the structure of secondary education
by Suzanne Pepper
Center For Chinese Studies,
University of Michigan \$13.00 and \$8.00
ISBN 0 89264 0502 and 0464

China's Ministry of Education has issued several directives recently warning secondary schools against attempts to maximize the number of pupils gaining admission to university. Such endeavours have led to "deviations" such as classroom streaming, concentration upon a few children at the expense of the majority, rampant cramming, corporal punishment and the victimization of teachers whose pupils perform badly. The ministry does not issue directives lightly, but their frequency points to some profound problems which have beset teachers and pupils since the reintroduction of formal competitive university entrance examinations in 1977.

When universities began to admit students in the early 1970s after the initial furor of the Cultural Revolution, admission decisions were made largely upon the recommendation of local party officials. For all its much vaunted improvement upon earlier enrolment procedures, this innovation failed. It spawned corruption and lowered the quality of university entrants to such an extent that the barely literate were sometimes admitted and many university graduates of the early 1970s were graduates in name alone, no better equipped for advanced work than secondary school graduates of the early 1960s.

Efforts to restore academic testing of university recruits surfaced in 1972 and 1975, but they fell on deaf ears in the terroristic violence of the late Cultural Revolution. In the new climate created by Mao's death and the abrupt termination of the Cultural Revolution it became possible to re-examine educational priorities and an immediate consequence - inseparable from Deng Xiaoping's return to power - was the decision to restore university entrance examinations in 1977.

Since then potential university students have been required to undergo an exacting process of selection. In 1977 5.7 million candidates sat entrance examinations, of whom only 273,000 gained admission. That adds up to a lot of disappointment and the more recent combination of falling school rolls and university expansion has eased the problem only marginally. In 1983 2.4 million pupils graduated from upper secondary schools, but China's universities admitted only 391,000 new students.

Dr Pepper presents a masterly analysis of the mechanics of post-1977 university admission procedures and the problems which they have created. Based on extensive field work and an exhaustive examination of documentary sources, it is the best analysis in print of the subject and will be useful not only to those interested in the trials and tribulations of post-Mao education but also to those seeking a Chinese dimension in problems of educational transition. Her monograph begins sensibly by discussing recent structural changes in Chinese secondary education which, by reducing the number of schools offering tuition for university entrance examinations, have actually intensified competition in secondary education. Thereafter she exposes - not too strong a word - the stratagems which have been adopted to increase university admission rates. The remainder of the study analyses the entrance process: the Chinese equivalent of the UCCA form game (some astonishing similarities!), the examinations themselves and the byzantine complexities of final selection.

Has the new system worked? The quality of university recruits has improved, but at considerable cost. Quite apart from the divisiveness of competition within and between secondary schools, universities now face problems with students who, duly crammed, cannot think independently. And spare a thought for the entrance examination compilers, held incommunicado until their examinations have been sat - "partly like being on holiday, partly like being in jail". Recent official announcements suggest that major changes in university enrolment procedures are imminent. In particular, measures to increase university autonomy are softening the rigidity of the unified national university entrance examination. Yet it is unlikely that these and other changes will detract from the continuing usefulness of Dr Pepper's excellent study.

David Chambers

David Chambers is tutor in Chinese studies at the University of Bristol.



This photograph shows Allenswood, a London finishing school which Eleanor Roosevelt attended when she was fifteen. It is taken from Joseph P. Lash's "centenary portrait" of her: *'Life Was Meant to be Lived'* (Norton, £14.95).

Interest groups

The Uncertain Triumph: Federal Education Policy in the Kennedy and Johnson Years
by Hugh Davis Graham
University of North Carolina Press, £20.90
ISBN 0 8078 15993

At the centre of all legislation in the United States is the Constitution and the important amendments to the Constitution incorporated in the Bill of Rights. The Constitution makes national defence and welfare a responsibility of the federal government, while the amendments largely restrict the role of federal government. Individual states have authority over matters which are not mentioned in the Constitution, including education.

The federal government may not pass any legislation which links the government with any church, and all citizens are to have equal rights before the law.

Federal legislation on education which does not contravene one of

these constitutional dictates is difficult to construct, and the history of handling the demands of various political pressure groups forms the subject of Hugh Davis Graham's book. In the 1960s the National Education Association wanted federal support for teachers' salaries and school building programmes. The Catholics wanted the same support for Catholic schools, on the grounds that anything less would mean the federal government favouring one group over another. In response the Protestants argued that aid to Catholic schools amounted to state support for a church and was unconstitutional. The federal government wanted some control over where its money went, and the states wanted to defend their autonomy in education. While each group had enough power to block alternative proposals, none had the power to achieve what they wanted without compromise.

After a brief survey of the constitutional background, Hugh Davis Graham traces the workings of political alliances over the years 1962 to 1969. This was a period which produced a great deal of significant federal support for and involvement in education, including expansion of the National Defense and Education Act programmes initiated in 1958, the Elementary and Secondary Education Act of 1965, the Higher Education Act of 1965, and

the Bilingual Education Act of 1968. The National Defense and Education Act of 1958 had been justified on the grounds that federal support in education in mathematics, science, and modern languages was necessary to the defence and welfare of the nation, which was legitimately a concern of federal government. After 1964 the concept of national welfare was greatly extended, but not without political struggles.

Kennedy was unable to put together a package of educational measures that would find favour with Congress. In contrast, Johnson was more successful in pushing through measures and persuading competing interest groups not to hold up legislation which did not benefit them directly, and in this way a large number of measures were approved by Congress and were gradually consolidated. One of the central ironies of the period which Graham explores is the way in which the process set precedents and built up its own momentum, so that when Johnson's power and popularity were at their lowest, the Congress was passing more and more of his educational and social legislation.

With hindsight, many observers have judged the educational legislation of the 1960s to have been a failure. While federal expenditure increased, standards of educational achievement, as measured by average scholastic aptitude test scores, declined. This paradox was partly the product of the competing political interests of the period: while Congress wanted to see federal money spent effectively on education, they were unwilling to see an expansion of the federal administrative bureaucracy consistent with the efficient implementation and monitoring of federal programmes. Legislation frequently included specific measures which frustrated the administration and hence frustrated the process of reform.

Graham deals with issues, such as the activities of pressure groups, the control of government officials and bureaucrats, and attempts to eliminate some of the excesses which are central to the understanding of democratic government. It is indicative of the increasing role of the federal government in education during the Johnson years, and of the important place that education has come to occupy in federal policy, that Graham's interest in the development of social policy led him, over a period of years, into a detailed study in the field of education.

David Turner

David Turner is lecturer in comparative education at the Institute of Education, University of London.

Being mother

The Needs of Parents: practice and policy in parent education
by Gillian Pugh and Erica De'Ath
Macmillan, £18.00 and £6.95
ISBN 0 333 37326 X and 37327 8

The field of parent education is a real one, even if it has grown piecemeal. Gillian Pugh and Erica De'Ath identify this field as a range of disparate activities taking place in schools, ante-natal clinics, youth clubs and elsewhere and argue that a much greater coherence of policy and practice is needed within it. Based on work done under the auspices of the National Children's Bureau and funded by the DHSS and DES, the book's descriptive coverage is comprehensive and clear, even if the data are rather thin in places. The authors succeed in demonstrating that a good deal of professional, voluntary and self-help activity is indeed directed to supporting and educating people (especially women) as parents, or preparing them to become parents.

The material is organized around a rather simple notion of the family life-cycle, which is presented as a natural progression. Thus we are introduced to aspects of the school curriculum concerned with preparing young people (especially girls) for future parenthood; to activities with the same aim which take place under the auspices of the Youth Training Scheme or in youth groups; to the more specific preparation which takes place in ante-natal care; and finally, to parent education associated with pre-school services and with schools. The emphasis throughout is upon the support of individuals, as well as imparting knowledge and teaching skills. The book ends with a set of policy recommendations which elaborate its main theme, that parent education should be more coherently organized and comprehensive in its coverage.

On one level, it is difficult to dissent from humane, liberal conclusions such as: "parenting is a difficult task, and should be supported; or, men should be encouraged to increase their involvement. On the other hand, the enterprise outlined here does pose difficult and important questions about state intervention in intimate relationships, about mechanisms for encouraging conformity to dominant values, and about reintroducing a role as mothers. But then in one knowledge these questions, but then in one curious way they lay them out on one side. Failure to follow them through is critical that the discussion lacks a means that cutting edge.

If this book had simply aimed to bring together and categorize information about existing parent education schemes, one could deem it a useful limited exercise, providing the book for a future critical analysis. But the specific policy recommendations, in the context of a project the failure to follow through critical questions is more serious. What hope is there, for example, that the recommended expansion of parent education on the basis of prepared for full-time motherhood and discouraged from full-time labour market aspirations?

Janet Finch

Janet Finch is senior lecturer in social administration at the University of Lancaster.

BOOKS

PSYCHOLOGY

Beyond the IQ

Beyond IQ: a triarchic theory of human intelligence
by Robert J. Sternberg
Cambridge University Press,
£28.00 and £8.95
ISBN 0 521 26254 2 and 27891 0

Robert J. Sternberg, of Yale University, is one of the most significant members of the new band of research workers on human intelligence who seek to surmount the limitations of traditional psychometrics, as manifested in a single immutable number - the IQ - purporting to summarize a person's mental abilities and potential capabilities.

Sternberg has constructed a framework, or at least an approach, or at best a theory of human mental activity which overcomes the contradictions, more apparent than real, between differential or correlational studies of human mentation, in which individual differences are related; and experimental studies seeking to discover the general processes of human cognition, in which individual differences are abandoned. Although last year, *Behavioral and Brain Sciences* carried provocative commentaries on an outline of Sternberg's "triarchic theory", this book represents the first full statement of that theory.

An historical account of various conceptions of intelligence precedes a detailed description of the triarchy. Here, Sternberg makes the case for a

distinction between explicit theories, in which the nature of intelligence is defined by psychologists and forms the object of empirical investigation; and implicit theories, which form the basis of everyday actions; here, intelligence becomes simply "what the people say it is". The triarchy itself consists of three interrelated subtheories, but no hierarchical positioning is implied.

The "componential subtheory", the best amplified, is an attempt to "specify the mechanisms by which intelligent performance is generated". The unit of analysis is the "component" - "an elementary information process that operates upon internal representations of objects or symbols". The identification of a component "depends upon the desired level of theorizing". Here, recourse is made to the notion of "levels of explanation", an effective way of avoiding the dangers of reductionism. Mark Cook used it persuasively in his *Levels of Personality* (1984). Sternberg claims that "what is a component in one theory might be two components in another"; and that "theories at different levels serve different purposes and must be justified in their own right". Even so, with this degree of freedom and number of arbitrary elements, the theory might be untestable. Fortunately, an escape from this calamity is made by classifying components into three types: "general" (employed in all tasks - for example, recognizing a problem); "class" (employed in at least two tasks - for example, making an inference); and "specific" (employed in only one task). These types form hierarchies which are constrained, making "disconfirmation of a given theory both possible and feasible". They also carry some similarities to the general, group and specific factors of the more traditional psychometric models of intelligence, which are based solely on test rather than task performance.

There are three kinds of components: "meta-components", responsible for setting up a general strategy to solve a problem; "performance components", "used in the execution of

Both, after all, will be sure to recount the most important psycholinguistic discoveries. No psycholinguistic textbook, for example, omits the "wug" experiment, in which Jean Berko studied how young children learn the English plural ending pronounced /s/ on words like "dog", but /z/ on words like "cat". She showed children pictures of funny looking creatures with names like "wug" or "zib". When the children were presented with two wugs or two zibs, how would they pronounce the plural form? Berko found that they correctly used /s/ on "wugs", /z/ on "zibs". That is, the children did not just know how to make plurals of words they already knew; they had developed a rule for the phonetic form of the English plural.

Psycholinguists draw two kinds of lesson from this finding. To the linguist, Berko's experiment confirms the appropriateness of the linguistic representation of the English plural ending as an abstract marker which happens to be realized sometimes in one phonetic form, sometimes in another. To the psychologist, it tells something about the way children acquire their native language: not by passively learning forms as they come across them, but by actively deriving general principles from the forms they happen to encounter. Which view of psycholinguistics one prefers therefore depends on whether one is primarily interested in what language is like or in how people use it.

There is one further difference between the two approaches. Most psycholinguistic experiments are still being done by psychologists, and results in psycholinguistic journals reach linguists only slowly. Thus, linguistic psycholinguists in the 1980s are based on psychological work of the 1970s. Pridoux's book is in this respect typical: it covers psycholinguistics competently (indeed, excellently) in the areas of syntax and morphology but only up to the late 1970s. It is, however, untypical in ignoring phonetics and phonology.

As an undergraduate textbook, it suffers from a difficult typeface, numerous printing errors and loaden style. This is a pity because it is otherwise a good and representative example of one way of approaching this curiously divided field.

Anne Cutler

Anne Cutler is a member of the senior scientific staff at the MRC Applied Psychology Unit, Cambridge.



A computer-reconstructed image of a cross-section of a normal brain, using data derived from the nuclear magnetic resonance of hydrogen in the water molecules of the subject's head, from the second edition of Sally P. Springer and Georg Deutsch's *Left Brain, Right Brain* (Freeman, £25.95 and £14.95).

various strategies for task performance; and "knowledge-acquisition components", used for gaining new knowledge. Sternberg interprets 12 aspects of human intelligence. Taking just one, the fact that the absolute level of intelligence increases with age, is seen as a feedback loop in which an increase in the effectiveness of using components leads to an expansion of the knowledge base. Although it is possible to object that Sternberg has proffered a mere re-description of intellectual growth, that objection would be unsustainable because the subtheory is open to experimental tests.

The "experiential subtheory" considers the "role that intelligence plays at various points in our continuum of experience with tasks and situations". It has two related facets, consisting of those abilities required to cope with novelty and those to automatize information processing. In the first encounter with a task (for example, a crossword puzzle), novelty is at a maximum, and then decreases with exposure to the same kind of task (further crosswords); production of the correct responses becomes smoothly automatic and moves out of conscious control. Sternberg maintains that existing IQ tests must be supplemented, if not replaced, by tasks which are specifically designed to measure a person's facility in dealing with novelty and becoming "automated". Yet, the question of at what practice point in a task is intelligence best measured, remains open. Although Sternberg recognizes this

difficulty, he fails to realize that the problem directly relates to the controversy of IQ stability and the effects of coaching. Arthur Jensen (1980), having inspected the findings, recommended a "standardized procedure of brief special instruction in test taking", together with a practice session on a version of the actual test; and noted that "this would seem especially appropriate when there is evidence that applicants have had diverse educational backgrounds". (If this advice is followed, the plea for including response to novelty in a definition of intelligence is weakened. If it is ignored, justifiable accusations of test bias can be made.)

The "contextual subtheory" is the newest and least elaborated part of the triarchy, predicated on Sternberg's definition of intelligence as "mental activity directed toward purposive adaptation to, and selection and shapening of one's life". Sternberg emphasizes the overwhelming importance of the interaction between people and their circumstances to an understanding of intelligence. He dismisses attempts to estimate that proportion of test score variance in a given population which is due to heredity, for "failing to answer the fundamental question of just what intelligence is". And he makes the extravagant claim that some psychologists "would like to understand intelligence solely in terms of the functioning of genes". There are, however, psychologists who occupy the completely opposite position. Notoriously, Leon Kamin

emphasized in 1974 that "there exist no data which should lead a prudent man to accept the hypothesis that IQ test scores are in any degree heritable"; and in 1981 he overreached even himself by having the thought "that regarding IQ tests as measures of 'intelligence' is nonsensical".

Sternberg goes on to address the issue of cross-cultural effects, concluding unsurprisingly that whereas "cultures may appear to show mean differences in levels of measured intelligence, but probably only when intelligence is measured in terms of the knowledge and skills acquired by one of the two (or more) cultures" - everything is not relative - and that many aspects of intelligence are universal. He does not accept that either the "hardware" (anatomy and physiology) of cognitive functioning or the potential software (cognitive processes, etc) of such functioning differs from one culture or society to the next. Only the importance or "weights" of these processes vary across cultures. Sternberg is plainly unaware of research which shows that although biological features may not differ across cultures, cognitive processes do so vary; it is not just the "weights" that alter.

The Soviet neuropsychologist A. R. Lurija, in his study of the peasantry of Uzbekistan in the early 1930s, demonstrated that "cognitive processes of people living in less complicated social-historical conditions, are constructed significantly differently from those in advanced societies; and contended that "these differences rest not only on the different content of cognitive processes, but are significantly different according to their structure". Lurija interpreted these differences as being conditional upon non-arbitrary economic forces: they would change as and when the economic relations changed. In contrast, Sternberg accepts only the possibility of cultural change and believes that experts alone can solve by intervention programmes the crucial problem of how to raise "intelligence" among the peoples of the developing countries.

Sternberg has taken us well beyond the IQ. Despite criticisms that he decouples his theories from the material substrate of cognition and simplifies the effects of environment, he has by logical argument and ingenious experiment helped to refresh the somewhat exhausted field of individual differences in intelligence. His book is a major contribution to our understanding of human intelligence and should be widely read.

R. E. Rawles

R. E. Rawles is lecturer in psychology at University College London.

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BOOKS

PSYCHOLOGY

Tentative steps

The Anatomy of Relationships: and the rules and skills to manage them successfully by Michael Argyle and Monika Henderson
William Heinemann, £18.00
ISBN 0 434 02500 3

The study of personal and social relationships is now undoubtedly a growth area in social psychology. This is as it should be, for whatever else social life involves, it is centrally concerned with relationships between people. This highly readable book will make theory and research on relationships accessible to a wide audience. Argyle and Henderson's own enthusiasm is almost palpable, especially when they explain that relationships are good for you. Positive relationships are associated with living longer, and being healthier and happier.

The book is mainly devoted to an exposition of what is known about the principal human social relationships: friendship; love, courtship and cohabitation; marriage; divorce (the loss of a relationship); parents and children; kinship; working relationships; and neighbours. Regarding each of these relationships, special attention is paid to class, sex and, occasionally, cultural differences. Each chapter contains a fascinating assemblage of information, a wealth of detail culled from the social sciences.

Of course, a book as ambitious as this suffers the vices of its virtues. There simply is not the space in 318 pages of text to do more than touch on the many aspects of each of the relationships considered. Given that whole textbooks have been written

covering virtually each of the relationships dealt with in respective chapters, superficiality is hardly surprising. Inevitably, this does cause some problems. First, research is almost always treated as though it was contemporary. This may matter little with psychological experiments, but discussions of class differences which rely on observations conducted 30 years ago may be misleading if the reader is led to believe that these differences still exist in the form described. Second, there is the tendency, common in social psychology texts, to assimilate conflicting approaches into a consensus: instead of drawing attention to the areas of controversy within the discipline, the authors give the impression that theory and research is more definitive than it is.

Apart from summarizing, synthesizing and reviewing a mass of research findings, Argyle and Henderson consistently pursue the theme that if people abide by the recognized rules which govern relationships, all will be well. They spend a chapter expounding the theory and return to it in each of the substantive chapters. Thus, we are told that in all relationships participants should respect each other's privacy and not disclose confidences. In most relationships, we are prohibited from criticizing each other in public. Specific relationships give greater emphasis to some rules rather than others. In marriage, one should "show emotional support" and, more specifically, "address the partner by their first name".

It is this emphasis on rules that leaves me with serious reservations. Any emphasis on rules of conduct, especially when gleaned (as in this case) from rules which people endorse in a questionnaire, is in danger of depicting social life as that mythical world in which children are always obedient to their parents and boy scouts help old ladies across the road. Moreover, the notion that relationships are created and maintained because people adhere to rules seems simply implausible. Such a view ignores spontaneity and postulates instead that people ritualistically go through the motions. Of course, there are rules governing relationships. Marital partners and even dating couples are expected to be faithful. This

does not mean, however, that rules form the core of these relationships. There are problems too in how the rules of relationships are stipulated. Some are rather general ("show emotional support"), whereas others are highly precise. Precision, you might think, would be a better guide to behaviour, yet the better guide to seem in some cases to be clearly wrong. For example, in many relationships it is prescribed that one should address the other by their first name. Yet, in my family my wife is known as "Waddy" and I am referred to as "Tank" - even by the children. Many friends and acquaintances use similar nicknames or other terms of endearment, such as "darling", "love", "mate". None of these relationships seems adversely affected by these departures from the rule, nor do they seem unusual in this respect.

The more general rules, though, are a precise guide to behaviour, and more credible. Perhaps their credibility lies in the fact that they do not simply stipulate overt behaviour but refer, albeit implicitly, to the intentions that lie behind the behaviour. So often, it seems that the interpretation of behaviour depends on who the person is, including their relationship to others involved, rather than what it is they are doing. A friend, for example, can "show emotional support" and engage in joking and teasing because - being a friend - they are assumed to act in good faith. When a friendship ends in acrimony, behaviour that was previously considered evidence of friendship (because of the intentions attributed to it), may retrospectively be regarded quite differently - for example, as evidence of deceit.

It is precisely because research in this area raises so acutely such fundamental issues that makes it an interesting and important area of study. As an enthusiastic introduction to this new and important approach in social psychology, this book will clearly remain a standard text well into the future.

P. A. J. Waddington

P. A. J. Waddington is lecturer in sociology at the University of Reading.

Active partners

Early Education and Psychological Development
by Barbara Biber
Yale University Press, £30.00
ISBN 0 300 02802 4

As psychologist and educator, Barbara Biber is acknowledged to have made an outstanding contribution to early childhood education in the United States spanning a period of over 50 years. Despite this, it is doubtful whether her work is as widely known in Britain as it deserves to be. This might seem surprising, as the developmental interaction model promulgated by the Bank Street College of Education in which Biber helped to establish and foster, is compatible with the philosophy which underlies much of the practice of early childhood education in this country.

Essentially, the Bank Street approach discussed in this book emphasizes the importance of viewing the child as a whole and not neglecting the affective in favour of the cognitive aspects of development. It sees the child as an active and creative partner in the learning process rather than the passive recipient of knowledge conveyed in an authoritarian manner, and it gives the school a vital role to play in providing young children with emotional support as well as intellectual stimulation. Clearly, it is not easy to present the practical implications of this stance in a text or standard package. It is understandable, therefore, that Biber's work has not made as great an impact here as some American programmes which take the form of a series of precisely-formulated lessons, with detailed instructions to the teacher.

This book provides us with a fascinating record of the development of Biber's ideas on early childhood education. She has selected 12 of her papers originally published between 1934 and 1977, for inclusion, and she has written a companion paper



From Kjell Raahel and John Radford's *Your Introduction to Psychology* (Sigma, £6.95).

to each of these, highlighting what has and has not changed with the passage of time. Although a book containing 24 articles covering a wide range of topics might not seem inviting, the arrangement is in fact successful, the juxtaposition of the recent and the older papers giving the work a lively historical perspective. This is especially so as Biber, showing that she herself has remained an eager learner, is ready to acknowledge early errors in her thinking. Among these she points to the failure to adapt educational procedures to different levels of deprivation, the ignoring of the values in various subcultures which are now better understood, and over-optimism about what could be achieved through education.

The volume is divided into four parts, covering the practice of preschool education, compensatory approaches to disadvantaged young children, creativity in early childhood, and the integration between theory and practice. In formulating her views, Biber has been influenced by many theorists, but she acknowledges a particular debt to Dewey and Piaget as well as to psychodynamic writers, although she has not followed any one school of thought fanatically or simplistically. She draws on many sources, but by no means just an eclectic succession of fashioning an attractive personal model of child development and early childhood education.

Biber has a gift for presenting her own ideas, as well as those of others, with great clarity. Her papers are

scholarly and well-informed, but never dull. All her writing shows her empathy with young children and her sensitive understanding of the complexities of their development. She is able not only to provide excellent reviews, which include an examination of various perspectives on language "fictions" or "differences", but also to illustrate the practical implications of her theoretical position for the teacher in the classroom. Never content with purely abstract discussion of school and family situations and their significance for children, while demonstrating a particular concern for children whose development is affected by poverty, and other forms of deprivation, Biber is careful to emphasize the extent to which children are capable of coping with difficult environmental conditions. She also recognizes how much children's own perceptions of such conditions can vary.

Biber has served the cause of early childhood education well by taking a comprehensive view of the needs of young children, asserting the value of providing them with a rich and creative school environment in which they can flourish, and underlining the importance of taking into account how children perceive their world and how they feel about it. As Edward Zigler puts it in his gracious foreword, Biber emphasizes the need for children to be given the opportunity to "select, influence, plan and make their own group decisions" and to learn that "the teacher and others are available as guides for exploring the world and as resources for dealing with the world's problems". In Biber's model, teachers are assigned an active and responsible role in structuring learning in a way which would have some meaning for their pupils. They have to avoid putting undue emphasis on cognitive growth, but rather focus on stimulating experiences leading to their effects on all aspects of the child's development. Emotion and social growth, self-image and attitudes to others are no less important than intellectual development.

Maurice Chazan

Maurice Chazan is professor of education at the University College, Swansea.

BOOKS

PSYCHOLOGY

Chimeric cortex

Cerebral Dominance: the biological foundations edited by Norman Geschwind and Albert M. Galaburda
Harvard University Press, £24.95
ISBN 0 674 10658 X

Although the symmetries of nature are regularly exploited by natural scientists, some of the most significant phenomena in the physical realm derive from inherent asymmetry. The human brain is superficially left-right symmetrical, being composed of two convoluted cerebral hemispheres which are bound together by callosal fibres, yet some of the most interesting developments in the study of the mind have followed the discovery of its inherent asymmetries.

Early theories of brain function have emphasized symmetry. In the nineteenth century, when Franz Joseph Gall and his school of phrenology divided the mind into faculties, these were represented in duplicate on symmetrical portions of the two hemispheres. The strength of particular faculties was assessed by measuring the bumps on the skull that purportedly reflected the extent of underlying brain tissue. The laws of symmetry were overturned following Pierre Paul Broca's discovery in the 1860s that language disorder (aphasia) typically resulted from damage to the left hemisphere of the brain, which was held to be dominant for language.

Hundreds of studies have since investigated the functional asymmetry of the human brain. Argument has centred on the relative cognitive strengths of the two hemispheres and the extent to which functions may be localized between and within hemispheres. The investigation of "split-brain" patients, whose callosal fibres have been sectioned, thereby disconnecting two functionally active independent systems, has fuelled the fascination with asymmetry and even created speculation about the seat of the self, if not the soul. Notions of a major and a minor hemisphere have been abandoned in favour of a view of different lateralized processing strategies and capabilities: the left hemisphere has been said to be verbal, logical, temporal, rational, objective and realistic; the right hemisphere to be musical, visuospatial, simultaneous, intuitive, subjective, imaginative and sensuous. (It is also said to possess a better sense of humour than the left.) Controversy continues, and a fully acceptable and succinct dictionary of the mind remains elusive.

In the course of such studies, it became apparent that many groups did not exhibit the "typical" patterns of cerebral dominance. Anomalous groups were neither rare nor homogeneous: women, left-handers, developmental dyslexics and schizophrenics, to name but a few. The nature of their divergence, if any, was ill-debated, and a precise delineation of the qualitative nature of the differences cannot yet be agreed. To complicate matters, there seem to be different types of left-handers; different types of developmental dyslexics and, less surprisingly, different types of women.

Although it was generally accepted until the 1960s that the functional competencies of the brain were correlated with anatomical asymmetries, more recent studies of both humans and man indicate that the phenomena may have been close to truth after all. *Cerebral Dominance* studies, however, indicate that there are gross structural asymmetries in the hemispheres. For example, areas to the left hemisphere involved in language are larger and more numerous than dendritic patterns in the right hemisphere. Functional asymmetries in the brain are reflected in electrical activity across the cortex, which can be recorded electrically by new imaging techniques. Structural and functional asymmetries, indicating that the brain is not as first thought, unique to man.

Of particular interest is the fact that investigation of people believed to have anomalous functional asymmetry reveals anomalous biological asymmetry. A small number of post-mortem studies of developmental dyslexics, for example, reveal abnormal cell migrations in the left hemisphere; and electrical recording reveals atypical patterns of activation in all language areas. Professor Geschwind himself proposes a novel and imaginative theory to account for these dyslexic patterns, and, in the same breath, for susceptibility to left-handedness, autoimmune disease and mathematical skill.

Geschwind claims that during foetal life the male sex hormone testosterone interferes with the development of the immune system and also slows the development of the left hemisphere of the brain. This may lead to right hemisphere dominance for motor control (resulting in left-handedness) and control (resulting in visual, spatial and mathematical superiority). Associated with the retardation of the left hemisphere, abnormal cell migrations may produce dyslexia and other language disorders in childhood. Since the male foetus is more exposed to testosterone than the female, the theory explains why all of these features are more prevalent in boys than girls. Inherited susceptibility to the influence of testosterone could account for the family histories often associated with learning disorders. Although the theory in its current form does not permit the existence of right-handed female dyslexics or left-handed males with good verbal and poor spatial skills, it remains a challenging conception.

The book provides a comprehensive and up-to-date account of biological asymmetries of interest to a range of psychologists, doctors, linguists, zoologists and philosophers. Regrettably,

ably, the animal studies are somewhat bogged down by experimental details, so that these chapters would be less comprehensible to the educated layman.

Further research in this exciting new area may well reveal physical underpinnings for ailments traditionally elusive to objective measures. Investigations of nerve sprouting and hormonal influences on cortical development, for example, may lead to new fields of therapeutic intervention. None the less, some caution about these possibilities may be required: the asymmetry of the cortex in rats seems to vary with species, sex, age and environment; and studies of functional asymmetry in man reveal further subtleties that result from task instructions and stimulus variations.

We are still a long way, however, from understanding the interaction of these factors and the consequent individual differences in their expression. Although gross asymmetries in cortical structure may be correlated with language laterality, it is not clear that all human capacities are capable of anatomical fractionation in this way. Nor is it clear that an anatomical correlation provides in itself an explanation for a functional pattern. Anatomical anomalies in developmental dyslexia provide no insight into the nature of the reading difficulty. Studies of rats may tell us about some basic biological mechanisms for the encoding and processing of information, but we are unlikely to be able to extrapolate these in any simple fashion to human skill and knowledge.

Christine Temple

Christine Temple is a member of the scientific staff of the MRC Neuro-psychology Unit at the Radcliffe Infirmary, and a research fellow at University College, Oxford.

Analyses of variance

Experimental Methods in Psychology
by Barry R. Houtson
and Martin H. Effenbein
McGraw-Hill, £27.95
ISBN 0 07 025521 0

In Britain, courses on experimental or research methods in psychology are usually split into two parts: introductory and advanced. As this American book is designed as a single text on this subject at first-degree level, it will satisfy the needs of either British course. Indeed, it is organized in such a way as to be fairly inaccessible to beginning students (who must wade through over 100 pages on the fundamentals of scientific research, before reaching a simple experimental design) and limited in depth of treatment for an advanced course.

However, as the book is clearly written, it might be best recommended to the struggling student on an advanced course, where an unquestioning simplicity of treatment is pedagogically defensible as an interim tactic. Considered outside the confines of its use as a course companion, the book is more solid and reliable than exciting or stimulating. It has a somewhat dated air, in part arising from the emphasis on old friends such as the Miller-Lyer illusion and illustrations of pieces of equipment likely to be in all laboratories. Log tables, though seemingly out of date in an age of calculators, are provided for use in scaling studies.

The authors attempt to provide a balance between presenting issues involved in research design, and coverage of the content of such areas as perception, learning and memory, and social psychology. However, although this is laudable, this latter coverage is extremely sketchy and partial, descending to banality in the exposition of classical and operant conditioning. The section on "doing research" is probably the most successful, follows a hypothetical student, Gene, in designing and conducting an experiment on time estimation. Starting with "remembering the delights of his last ski vacation, Gene recalled how he consistently underestimated the passage of time when he was skiing", we pass through literature review and hypothesis formation to the study itself and data collection. The device has been used previously, but here it is sustained in a way which, though occasionally clumsy, should provide readers with a clear model of the process.

Two additions to Methuen's *Psychology in Progress* series have been published: *Issues in Person Perception*, edited by Mark Cook; and *Aggression*, edited by D. E. Blackman, both available at £14.95 and £6.95.

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ACADEMIC PRESS

THE RESEARCH INTERVIEW
Uses and Approaches
Brenner, Brown and David Canter.
1985, c271pp., \$49.00/£39.00 (UK only). ISBN: 0 12 131580 0

SOCIAL AND BIOLOGICAL ROLES OF LANGUAGE
The Psychology of Justification
Edited by R. Totman
1985, c183pp., \$39.50/£30.50 (UK only). ISBN: 0 12 696080 1
This volume is an integrative theoretical exploration of the essential links between a person's social adaptation and his or her biological survival. Language and speaking practices are thought to be closely tied in with social phenomena and so too the discussion of the way people use words runs through the analysis of the nature of stress and its physiological effects.
The ideas developed have implications both for our understanding of what stress involves and for the psychology of individuals and communities.

ISSUES AND APPROACHES IN PERSONAL CONSTRUCT THEORY
Edited by D. Bannister
1985, 302pp., \$47.00/£37.00 (UK only). ISBN: 0 12 077980 3
This book presents extensive reports of recent developments in personal construct theory. Areas discussed are self-constructing in children, attitudes of parents of the mentally handicapped, self diagnosis by psychiatric patients, suicide, the teaching of teachers, self-organised learning and the meaning of construct theory for issues such as emotion, choice, bodily experience and reflective conversation.

ORGANISATIONAL AND OCCUPATIONAL PSYCHOLOGY SERIES
EVALUATING PLANNED ORGANISATIONAL CHANGE
J. Legge
1984, c260pp., \$30.00/£20.00 (UK only). ISBN: 0 12 440980 6

THE PSYCHOLOGY OF HUMAN MOVEMENT
Edited by M. M. Smyth and A. M. Wing
1985, 340pp., Cloth: \$55.00/£38.00 (UK only). ISBN: 0 12 653020 3
Paper: \$24.50/£16.00 (UK only). ISBN: 0 12 653022 X
This volume deals with psychological approaches to the study of human movement and action and reviews existing knowledge of the representation, planning and control of movement within an information processing framework.
This text serves as an indispensable introduction to the complexity and diversity of human movement and will be suitable for undergraduates in psychology, physical education, kinesiology and related disciplines.

PSYCHOANALYSIS AND COGNITIVE PSYCHOLOGY
Edited by C. Wegman
1985, c290pp., \$45.00/£34.50 (UK only). ISBN: 0 12 741380 4
Prices subject to change without notice.

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UNDERSTANDING PERSONAL RELATIONSHIPS
An Interdisciplinary Approach
Steve Duck and Daniel Perlman Editors

Understanding Personal Relationships introduces readers to the new interdisciplinary field of personal relationships. It does so by integrating central themes from the fields of social psychology, sociology, clinical psychology and family studies. The editors have provided an overview of the growth of the field and predicted future areas of research and clinical practice, while other contributors have dealt with some of the theoretical and motivational issues in relationships. Specific types of relationship have been examined in five of the chapters. Through this breadth of coverage, the book conveys a spirit of optimism which characterizes the new field of personal relationships.

Contributors include: Keith Davis, Michael J. Todd, Paul H. Wright, Michael Argyle, Monika Henderson, Dan P. McD Adams, Jennifer D. Campbell, Abraham Tesser, Kathryn Dindia, Mary Anne Fitzpatrick, Barry Wellman, Phillip Shaver, Wyndol Furman, Duane Buhrmester, Warren H. Jones and Leslie A. Baxter.
March 1985 • 312 pages • Cloth (8039-9701-9) £32.00

HUMAN SEXUALITY
Contemporary Controversies
Harold Feldman Editor

"...this book will be more than welcomed by health educators for the help it will give in the preparation of training and education programmes which hitherto have been too one-sided. Valuable too for the general reader who wishes to come to personal decisions about sexuality." — *Journal of the Institute of Health Education*, Vol 22 No 2, 1984
1984 • 324 pages • Cloth (8039-2071-7) £27.50
Paper (8039-2072-5) £13.75

EMOTION IN ADULT DEVELOPMENT
Carol Zander Malatesta and Carroll E. Izard Editors

The role of emotion in the development of adults has only recently come into its own as an area of study. In this volume scholars bring together (for the first time) work which provides us with an analysis of these affective processes and their place in the course of adult life. The contributors develop theoretical frameworks and present research which examines the role of emotion in relation to critical developmental areas: cognition, personality, well-being, interaction and culture.
1984 • 338 pages • Cloth (8039-2156-X) £30.25

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Universities



Macquarie University, Sydney
LECTURER IN COMPUTING
The Lecturer will be a member of the Computing discipline and will contribute to its teaching and research activities. A research higher degree is required, as also an equivalent research background, and wide practical experience is desirable.
The Computing discipline provides courses for undergraduates and a part-time Diploma/degree program for graduates in industry. It has its own computing facilities and is about to establish an advanced computing laboratory for teaching and research. Research interests include database, information systems, software engineering, operating systems and test processing. There is scope for joint research with staff in other disciplines.
14 June 1985.

The University of Sydney

CHAIR OF RESTORATIVE DENTISTRY

Applications are invited for the Chair of Restorative Dentistry which became vacant following the retirement of Professor J.E. Lyle, who held the Chair with the title of Operative Dentistry. The Chair is at present located in the Department of Restorative Dentistry but the Faculty is currently considering a recommendation of its own and is in the process of moving.

The main teaching and research areas are operative dentistry, crown and bridge work, orthodontics and dental restorative materials. The Chairholder will be expected to contribute to the general research and teaching activities of the School, such as the supervision of postgraduate students and the supervision of postgraduate students and the supervision of postgraduate students.

LECTURER/SENIOR LECTURER-SCHOOL OF ELECTRICAL ENGINEERING

Reference no. 1181
Applications are invited from suitably qualified persons interested in research and teaching in the areas of modern electronics and electrical engineering.

The School has extensive experimental facilities and equipment resources are available. Close collaboration with industry has been established. The school is also involved in a number of research projects in the field of electrical engineering.

The University is located in the heart of Sydney and is a well established institution with a long tradition of excellence in research and teaching.

SALARY: plus a superannuation benefit of \$45,300 per annum.
31 May 1985.

The University of Melbourne

CHAIR OF MEDICINE

This Chair will be vacant from 1 January 1986, following the retirement of Professor A.E. Doyle, Foundation Professor since 1965.

The Chairholder will be expected to contribute to the general research and teaching activities of the School, such as the supervision of postgraduate students and the supervision of postgraduate students.

The University is located in the heart of Melbourne and is a well established institution with a long tradition of excellence in research and teaching.

University of Southampton

PROJECT ASSISTANT

Salary: £5,000 p.a. to £6,000 p.a.
Applications are invited from suitably qualified persons for a two-year appointment to assist in the development of a new project in the field of computer science.

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The American International College of London

LECTURER II IN BUSINESS ADMINISTRATION (2 vacancies)

Applications are invited for the above two vacancies, commencing September 1985. Candidates should have at least an MBA or a master degree in a business related discipline. Teaching experience is essential, and preference will be given to candidates whose background demonstrates some international involvement in education or commerce.

Duties other than teaching will include curriculum developments and academic advising of students from 70 nations, under the supervision of the Divisional Chairman and Academic Dean.

Salary will be determined by qualifications and experience, and will fall within the Burnham F.E. range for Lecturer II, currently £7,548-£12,099 but due for review.

Letters of application, a curriculum vitae and the names of two referees should be sent to:

Dr Robert E. Kuehn,
Academic Dean,
Richmond College,
Queens Road,
Richmond, Surrey TW10 6JP

(080170)

Coláiste na hOllscoile Corcaigh University College Cork

Department of Geology

ASSISTANT LECTURER/ COLLEGE LECTURER IN STRUCTURAL GEOLOGY

Applications are invited for a full-time permanent post as Assistant Lecturer or College Lecturer in the Department of Geology. The duties of the post will include teaching structural geology at all levels and supervising postgraduate research in this area, teaching metamorphic petrology at the undergraduate level as well as engineering geology to civil engineering students. In addition, experience in geomathematics and an interest in an applied field such as engineering geology or economic geology would be an advantage. A strong commitment to research is essential.

The salary scale for the post is:
College Lecturer: IR£12,348-IR£14,804 BAR IR£13,940-IR£17,818 p.a.
Assistant Lecturer: IR£10,745-IR£11,784 p.a.

Further particulars and application forms may be obtained from the undersigned.

Latest date for receipt of applications is Friday, 3 May, 1985.
M. F. KELLEHER
Secretary

(02145)

HERIOT-WATT UNIVERSITY

Edinburgh College of Art Department of Town & Country Planning

Lecturer in Planning

Applications are invited for the above post. The person appointed will be expected to contribute to teaching, research and administration. The Department offers professionally recognised degree and diploma courses in planning and housing.

Candidates should preferably be chartered members of the R.T.P.I. and have experience in one or more of the following areas: urban and regional economic development; design and implementation; rural planning; computer applications in planning.

Salary will be on the scale £13,800-£15,710 (under review).

Please write to the Departmental Secretary, Department of Town & Country Planning, Heriot-Watt University, Edinburgh College of Art, Leith Walk, Edinburgh EH8 8JH, for further details and an application form which must be returned by 15th May, 1985.

(0255)

THE UNIVERSITY OF AUCKLAND

New Zealand

SENIOR LECTURESHIP/ASSOCIATE-PROFESSORSHIP IN ELECTRICAL AND ELECTRONIC ENGINEERING

Closing Date: 7 May 1985
Applicants must have advanced qualifications, a strong research record, practical experience within the overall field of telecommunications and information technology, and a strong administrative capacity in an academic or professional environment.

LECTURESHIP IN BIOSTATISTICS (Department of Community Health and General Practice)

Closing Date: 17 May 1985
Applicants must hold a higher degree in Biostatistics, Mathematics, Statistics or related disciplines. Candidates must be prepared to teach undergraduate students and provide an advisory service on the statistical aspects of the design and analysis of research projects.

LECTURESHIP/SENIOR LECTURESHIP IN ACCOUNTANCY

Closing Date: 31 May 1985
Applicants should have a higher degree in accounting together with a successful record of teaching and research or appropriate professional experience. Preference will be given to a candidate with experience in public sector accounting and financial management.

LECTURESHIP/SENIOR LECTURESHIP (2) IN INFORMATION SYSTEMS (Department of Management Studies)

Closing Date: 15 May 1985
Applicants should have a higher degree and have teaching experience and research interests in two or more of the following fields: Systems Analysis, Systems Design, Programming, Data Base Management Systems, Data Communications, Management Information Systems, Decision Support. Preference will be given to those who are able to demonstrate practical experience in any of these areas.

Commanding Salaries will be established within the appropriate scale. Present scale is: Lecturers NZ\$23,822-£27,959, Senior Lecturers NZ\$29,450-£32,500, Associate Professors NZ\$40,599 per annum.

Conditions of Appointment and Method of Application are available from the Assistant Registrar (Academic Appointments), University of Auckland, New Zealand, or from the Secretary General, Association of Commonwealth Universities (Apsu), 34 Bedford Square, London WC1N 3EU. Applications in accordance with the Method of Application should be forwarded as soon as possible but not later than the closing dates stated.

(008)

University of Newcastle upon Tyne

SCHOOL OF PAINTING

DEMONSTRATOR

Applications are invited from above mentioned persons for a full-time post as Demonstrator in the School of Painting. The duties of the post will include teaching painting at all levels and supervising postgraduate research in this area.

The salary scale for the post is:
Demonstrator: £4,000-£5,000 p.a.

Further particulars and application forms may be obtained from the undersigned.

Latest date for receipt of applications is Friday, 3 May, 1985.
M. F. KELLEHER
Secretary

(02145)

Department of Mathematics

Applications are invited for a 'New Blood' Lectureship in Operational Research in the Department of Mathematics.

Candidates who should not be more than 35 years of age, should be graduates with honours in Mathematics and/or computing and willing to apply these ideas in Operational Research. The O.R. work of the Department covers a wide range of teaching and research activities. There is an active M.Sc. course in O.R. and a programme of joint projects with a variety of organisations.

Salary scale: £7,550 - £14,700 p.a. (under review). The initial salary will depend on qualifications and experience.

Further particulars may be obtained from Mr. D.W. Powell, Staffing Department, University of Southampton, Southampton SO9 0BT, to whom applications (7 copies from U.K. applicants) should be sent not later than 24 May, 1985 quoting reference 1812/A.

Informal information concerning the post may be obtained by writing to Professor R.P. Williams at the above address or by telephoning Southampton 55122 ext. 874.

(0255)

University of Durham

Department of Mathematics

LECTURESHIP IN COMPUTER SCIENCE

Applications are invited for a Lectureship in Computer Science. The duties of the post will include teaching computer science at all levels and supervising postgraduate research in this area.

The salary scale for the post is:
Lectureship: £7,550-£14,700 p.a. (under review).

Universities continued

UNIVERSITY OF MAIDUGURI

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ACADEMIC STAFF VACANCIES

Applications are invited from suitably qualified candidates for the following posts in the Academic Departments of the University.

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Department of Agricultural Economics & Extension

Area of Specialization:
Economic/Quantitative Economics
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Agricultural Development and Policy
Agricultural Extension
Agricultural Communication
Rural Development
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Department of Agricultural Engineering

Farm Power and Machinery
Farm Structures and Environment
Electric Power and Crop Processing
Food Engineering
Mathematics

Department of Animal Science

Genetics/Breeding
Sheep and Goat Production
Nutrition, Management
Reproductive Physiology
Ruminant Nutrition
Laboratory Animal Production and Management
Game Animal Production
Poultry Production/Nutrition
Beef Production/Management

Department of Crop Science

Ph.D. in Agronomy or Crop Physiology with specialization in production of tropical crops.
Ph.D. with basic degree in Forestry: Specialization in Agroforestry.
Ph.D. in Nematology with research on plant parasitic nematodes.
Ph.D. in plant pathology/Virology with specialization on Plant Viruses.
Ph.D. in plant protection with specialization in chemistry of pesticides and their applications.
Ph.D. in Horticulture with specialization in the breeding and production of vegetable and fruit crops.
Ph.D. in Horticulture with specialization in pomology and propagation of fruit trees.

Ph.D. in plant pathology/Virology with specialization on Plant Viruses.
Ph.D. in plant protection with specialization in chemistry of pesticides and their applications.
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Department of Sharia Law

Professor, Reader, Senior Lecturer, Lecturer I

COLLEGE OF MEDICAL SCIENCES

Professor, Reader, Senior Lecturer, Lecturer, Med. Research Trg. Fellow
Grad. Assistant, in the following Departments:

Anatomy
Physiology
Biochemistry
Pharmacology
Surgery
Internal Medicine
Obstetrics & Gynaecology
Paediatrics
Community Medicine
Pathology
Radiology
Psychiatry
Ophthalmology
Ear, Nose and Throat.

FACULTY OF SCIENCE

Department of Chemistry

Solid State Chemistry (crystallography)
Reaction of acids, salts, etc.
Transition metal chemistry
Inorganic reaction mechanism

Department of Mathematics and Statistics

a) Fluid dynamics/solid mechanics
b) Numerical methods/complex analysis
c) Algebra/differential geometry
d) Statistical inference/stochastic process
e) Sample survey/business statistics
f) Design of experiments/operational research

Department of Biology

a) Plant Taxonomy
b) Plant Ecology
c) Plant Physiology
d) Plant Pathology
e) Plant Biotechnology

Department of Physics

Theoretical physics: quantum mechanics; solid state theory; mathematical physics; nuclear physics; experimental physics; solar energy physics; electronics; geophysics; solar energy physics

Department of Geology

Igneous and metamorphic petrology
Hydrogeology and hydrology
Paleontology and stratigraphy
Mineralogy and crystallography
Geochemical laboratory

FACULTY OF SOCIAL AND MANAGEMENT SCIENCES

Department of Accountancy

Finance and Banking, personal management and industrial relations/organisational behaviour (industrial psychology) marketing management, business administration production management and quantitative techniques
Any of those above but should be different from that of Professor
Any of those of a Professor but should be different from that of a Reader or Professor
To teach at least three of the following Principles of management, fundamentals of business finance, fundamentals of banking, financial management, human behaviour in organisation (industrial psychology), investment analysis and portfolio management, basic marketing personnel management, industrial relations, small business management, elements of business administration, business communication sales and retailing management, marketing research, advertising and sales promotions.

Department of Economics

Monetary economics and international finance, public finance, economic planning, theory and techniques, cost-benefit analysis

Department of Geography

Political economy, political theory, statistical and quantitative techniques
Political science and administration
Research methods, including statistical and quantitative techniques

Department of Sociology and Anthropology

Sociology or Anthropology

"NEW BLOOD" LECTURESHIPS

UGC Adds £250,000 To Aston's 1985-86 Grant

1985-86 YEAR OF PROMISE

New Year Message from the Vice-Chancellor

FURTHERING THE PURSUIT OF EXCELLENCE...

DEPARTMENT OF GEOLOGICAL SCIENCES LECTURESHIP IN SEDIMENTARY GEOCHEMISTRY

Applications are invited from suitably qualified Earth Scientists for a lectureship under the 'New Blood' scheme. The successful candidate (who is likely to be 36 years of age or under) will be expected to pursue a vigorous research programme in areas of low temperature aqueous geochemistry and mineral chemistry. Problems related to diagenesis, leaching, or the processes of ore formation are appropriate fields of study. Informal enquiries may be directed to Professor D.D. Hawkes, Head of Department of Geological Sciences, extension 4901. (Ref: 87/8188)

DEPARTMENT OF VISION SCIENCES LECTURESHIP

A Vision Scientist is sought to join a multi-disciplinary team of researchers and clinicians in the Department of Vision Sciences. The applicant will be involved in physiological and ophthalmological studies and will be expected to contribute to the undergraduate honours degree course in ophthalmology, which is currently attended by one-third of the UK's undergraduates in this field. We seek a young person, with an exceptional record of research and publication in any area of vision science and the ability to work with a creative group of colleagues on research, teaching and the development of new techniques of clinical investigation. The department is currently being rehoused in a purpose-designed building with exceptional facilities for research, teaching and clinical investigation. (Ref: 87/8188)

These appointments will be for a period of three years initially, with the possibility of renewal or subsequent transfer to continuing appointments. Initial salaries will be within, and may be up to the maximum, of the range £7,530 to £14,925 per annum (under review). Full particulars and application forms are available from: The Personnel Office (Academic Staff), Aston University, Aston Triangle, Birmingham B4 7ET. Tel: 021-359 2811 (Ext. 4583/4584). Closing date for the receipt of applications is 17th May, 1985.

DEPARTMENT OF PHARMACEUTICAL SCIENCES Division of Pharmaceutics and Pharmaceutical Chemistry

LECTURESHIP IN DRUG DELIVERY SYSTEM DESIGN

Applications for this 'New Blood' position are sought from candidates with a primary qualification in pharmaceutical, physico-chemical or physico-organic sciences who possess, or will soon possess, a PhD degree. The person appointed to the position will be expected to contribute to the undergraduate teaching of the Division and to join the Drug Development Research Group where the initiation of projects within the areas of drug delivery system design, physical pharmaceutics and formulation will be encouraged. Informal enquiries may be directed to Professor M.F.G. Stevens, Head of Department of Pharmaceutical Sciences, extension 4170. (Ref: 88/1568)

DEPARTMENT OF CHEMICAL ENGINEERING LECTURESHIP

A Chemical Engineer with a research interest in separation processes embracing either production scale chromatography, membrane processes, solvent extraction or particulate drying processes is sought to join the Separation Research Processes Group in the Department of Chemical Engineering. The person appointed will be expected to participate in teaching and research in one or more of the above fields, and undertake to supervise research in higher own specialty. The successful applicant will be a graduate Chemical Engineer with a good Honours Degree and research experience in at least one of the above Separation Processes. (Ref: 87/1568)

DEPARTMENT OF MECHANICAL & PRODUCTION ENGINEERING Mechanical Engineering Division LECTURESHIP IN MICROPROCESSOR CONTROL OF MACHINERY

The adoption by industry of new technology is rapidly changing the job of the Mechanical Engineer, and skills in the application of microprocessors are in great demand. At Aston, a small team in the Mechanical and Production Engineering Department has been developing a strong base in the microprocessor control of electrohydraulic and electrically powered actuating mechanisms, with data collected from sensors ranging from position measurement through ultrasonic detectors to video camera displays. The applications have included wood-grading equipment, the control of free ranging vehicles, the control of attachments to agricultural machinery, and the improved control of mining machinery. The lecturer appointed to the 'New Blood' post will either extend the work to the control of high-speed machinery or will develop microprocessor based identification techniques for control systems. The work requires ability in the application of electronics, the design of mechanisms and the writing of computer software. The successful applicant, who would have a good degree in a suitable engineering, science or mathematical discipline, would be expected to have sound experience of, and preferably more of, these fields together with a strong interest in developing skills in the others. (Ref: 87/8188)

PRODUCTION ENGINEERING DIVISION LECTURESHIP IN FLEXIBLE MANUFACTURING SYSTEMS

This 'New Blood' appointment will join existing research groups who are primarily concerned with setting up a Flexible Manufacturing System with existing CNC Machines and Robots within the Departmental laboratories. Tool and workplace handling systems will be developed together with all the sensing facilities required. Software development will be a major part of this research which must also lead to integration with the management control systems. Some teaching at Undergraduate and Postgraduate levels will be expected as will be the setting up of post experience about courses in F.M.S. The successful applicant, who would have a good degree in a suitable engineering, science or mathematical discipline, would be expected to have both engineering and computing experience. (Ref: 87/1568)

ASTON UNIVERSITY

University of Waikato Hamilton, New Zealand DIRECTOR OF COMPUTER SERVICES

The University of Waikato has a vacancy for Director of Computer Services. The Director is responsible to the Vice-Chancellor and is a member of a Computer Committee which makes recommendations on policy matters. As the University alone to maintain state-of-the-art services, the Director should be able to provide leadership in computer utilization on the campus. He or she should have qualifications and academic qualifications and professional experience, including proven administrative ability. The Director is responsible for a Centre and for some staff and is expected to have a minimum of 10 years' experience in computer services and other related work. The current establishment is 7 professionals and 4 staff.

The salary will be in the range NZ\$38,377 per annum and the NZ\$28,377 per annum and the NZ\$28,377 per annum. The conditions of service are those for professional non-union staff.

Full particulars of the application process are available from the Secretary, General Services, University of Waikato, P.O. Box 200, Hamilton, New Zealand. Informal enquiries may be made of Professor J.C. Higgins, Director of the Management Centre. Closing date for receipt of applications is 24 May, 1985.

UNIVERSITY OF BRADFORD MANAGEMENT CENTRE

Chair in Marketing

To co-ordinate the teaching of marketing at undergraduate, postgraduate and post-experience levels and to exercise research leadership. Candidates should possess both academic and business experience and an outstanding record in at least one.

Further particulars including conditions of service and salary details may be obtained from the Registrar & Secretary, University of Bradford, West Yorkshire, BD7 1DP.

Informal enquiries may be made of Professor J.C. Higgins, Director of the Management Centre. Closing date for receipt of applications is 24 May, 1985.

REMINDER COPY FOR CLASSIFIED ADVERTISEMENTS IN THE T.H.E.S. SHOULD ARRIVE NOT LATER THAN 10AM MONDAY PRECEDING PUBLICATION

Universities continued

UNIVERSITY OF ZIMBABWE

Applications are invited for the following posts:

LECTURESHIP/SENIOR LECTURESHIP/ASSOCIATE PROFESSORSHIP/PROFESSORSHIP

IN THE DEPARTMENT OF COMMUNITY MEDICINE

Applicants should be medical practitioners with the Health Professions Council of Zimbabwe. Possession of additional qualifications showing registration as specialist in Community Medicine would be an advantage and might ensure higher seniority. Experience in Africa and/or epidemiology, occupational health and/or other health professional aspects of medicine would be an advantage.

LECTURESHIP/SENIOR LECTURESHIP/ASSOCIATE PROFESSORSHIP IN THE FOLLOWING DEPARTMENTS:

DEPARTMENT OF COMMUNITY MEDICINE (Field project, Julius Nkomo Centre, Chivwa)

Applicants must be registered as medical practitioners with the Zimbabwe Health Professions Council. They should be experienced generalists with experience in a rural area of developing country and have interests in teaching, epidemiology, health promotion and field subjects. The successful candidate will be based in Chivwa, 80 kilometres from Harare. Excellent accommodation is provided and access to a district hospital and satellite data centre.

DEPARTMENT OF LAND MANAGEMENT (Agricultural Economics)

Applicants should have broad experience within Agricultural Economics. A background in Quantitative Analysis is desirable. The candidate will be expected to teach undergraduate courses in Agricultural Economics in a number of different fields. Areas of specialization within the Department include Agricultural Development, Economics, Rural and Urban Economics, Agricultural Policy and Farm Management. The candidate will be expected to undertake applied research in Zimbabwe.

DEPARTMENT OF ADULT EDUCATION

Applicants must be suitably qualified and experienced adult educators in possession of an A-Level or P.D. degree with considerable experience in Community Development and Non-Formal Education. The incumbent will be in addition to teaching and directing the development of a curriculum in Community Development and Non-Formal Education as a qualified adult educator, he or she will be expected to supervise the production of teaching materials and direct Community Development and Non-Formal Education co-ordinated research.

DEPARTMENT OF HISTORY (War and Strategic Studies)

Applicants must hold at least an M.A. degree and should have a general ability to teach history and contemporary international security. A specialist in the history of Africa and the theory of civil-military relations or in arms control and military technology would be an advantage.

RESEARCH FELLOWSHIP/SENIOR RESEARCH FELLOWSHIP

IN THE FOLLOWING DEPARTMENTS:

DEPARTMENT OF BIOLOGICAL SCIENCES

A postdoctoral research fellow is sought to work in one of the following areas: Botany - Biological control of mosquitoes by hyperparasites or Parasitology - Parasitism between schistosomes-carrying snails and potential competitors or Fish biology - reproductive ecology of economically important fish species or Soil biology - effects of plant root systems on soil fertility. Applicants are invited to write for the details of these projects and to submit research proposals with their applications. Research for other projects of relevance to Zimbabwe is also welcome but priority will be given to those listed. The successful candidate should have a PhD or equivalent research experience in the chosen area. Appointment will be for one year in the first instance with the possibility of extension to a maximum of three.

DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

Applicants are invited from suitably qualified obstetricians and gynaecologists for a Clinical Research Fellowship in the Department of Obstetrics and Gynaecology. The successful candidate will be given a candidate's salary and should have a good degree in a suitable engineering, science or mathematical discipline, would be expected to have sound experience of, and preferably more of, these fields together with a strong interest in developing skills in the others. (Ref: 87/8188)

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UNIVERSITY OF SWAZILAND

Applications are invited from suitably qualified candidates for the positions listed below. It is expected that appointees will assume duty in August 1985, when the University's new academic year begins.

LECTURER IN ADULT EDUCATION:

At least a postgraduate degree in Adult Education backed by experience in teaching and administration and ability to write distance education materials. The successful candidate will be expected to teach Adult Education courses to Diploma and Degree students; (3) develop Adult Education materials. The work will involve a certain amount of travelling and research activity.

LECTURER IN AFRICAN LANGUAGES AND LITERATURE:

At least a Master's degree or a PhD degree in Linguistics. A knowledge of the grammar of Southern Bantu Languages such as Shona, Zulu or Xhosa as well as Southern Sotho, Ndebele and Tswana is essential. Duties will include the teaching of phonology, morphology and syntax and semantics.

LECTURER IN AGRICULTURAL EXTENSION:

At least a Master's degree in Agricultural Extension Education. The successful candidate will be expected to teach Agricultural Extension, Adult Education, Rural Sociology, Educational Communication and Technology to Diploma and Degree students and to manage an Audio-Visual Centre.

LECTURER/SENIOR LECTURER IN BIOLOGY:

A PhD degree in Zoology with considerable teaching experience at the undergraduate level. The successful candidate will be expected to teach courses such as Introductory Biology, General Zoology, and Ecology to undergraduate students, and to conduct Aquatic Biology (Fresh Water), Marine Biology and related courses to Diploma and Degree students. The candidate will also be expected to design and supervise student projects and teach certain topics in Applied Biology with particular reference to Africa.

SENIOR LECTURER/PROFESSOR IN CROP PRODUCTION:

At least a Master's degree or a PhD degree in Crop Production backed by several years of teaching and research experience. The successful candidate will be expected to teach Agronomy, Crop Physiology, Crop Botany and other related courses to Diploma and Degree students. The candidate will also be expected to design and supervise student projects and teach certain topics in Applied Biology with particular reference to Africa.

At least a Master's degree or a PhD degree in Education. Duties will include lecturing in Science Education with special emphasis on Physics and Chemistry Methodology and conducting relevant research.

LECTURER IN SCIENCE EDUCATION:

At least a Master's degree or a PhD degree in Science Education. Duties will include lecturing in Science Education with special emphasis on Physics and Chemistry Methodology and conducting relevant research.

LECTURER IN ENGLISH EDUCATION:

At least a Master's degree or a PhD degree with a teaching qualification and a specialisation in English Methodology. The successful candidate will be expected to teach English to students in English medium schools. Duties may from time to time be assigned to him/her by the University authorities.

LECTURER IN ENGLISH STUDY SKILLS:

At least a Master's degree in English. Preference will be given to candidates who have experience in the teaching of English Language. The successful candidate will be expected to teach English to students in English medium schools. Duties may from time to time be assigned to him/her by the University authorities.

At least a Master's degree or a PhD degree in Geography with a strong quantitative background and research experience. The successful candidate will be expected to teach and conduct practicals in Introductory Geography, Introduction to Cartography, Physical Geography, Dynamic Climatology and Applied Biogeography. The candidate will also be expected to design and supervise student projects and teach certain topics in Applied Biology with particular reference to Africa.

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UNIVERSITY OF EAST ANGLIA

Applications are invited for the above post in the School of Modern Languages and European History. The successful candidate will be expected to contribute to courses both in methodology and in the area of Applied Linguistics and in the area of basic teacher training at the RSA Preparatory Certificate level. The appointee will be based in the School from 1 October 1985. Starting salary is expected to be within the range £7,520-£14,925 per annum, plus US\$ benefits, but the initial appointment may exceptionally be at a higher point on the scale depending upon the candidate's age, qualifications and experience.

LECTURER IN TEFL

Applications (three copies) which should contain a full curriculum vitae, including exact date of birth, together with the names and addresses of three persons to whom reference may be made, should be lodged with the Establishment Officer, University of East Anglia, Norwich NR4 7TJ (telephone 0693 56181 ext 2126) from whom further particulars may be obtained. Applications should be received not later than 10 May 1985. No forms of application are issued.

Applications are invited for a post of Lecturer in the University's Institute of Polymer Technology. Duties will be concerned mainly with teaching and research in the areas of plastics and polymer processing. Applicants should also have an appreciation of the engineering properties of polymers. It is likely that the successful candidate will have graduated in an engineering discipline, physics, or polymer technology. The appointment will be made within the lower half of the scale £7,520-£14,925. Further details and application forms from Paul Johnson, Establishment Officer, Ref: 85/3PT. Loughborough, Leicestershire

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Universities continued

The University of the South Pacific
Suva, Fiji
DIRECTOR OF THE UNIVERSITY MEDIA UNIT
Post 85/82

The University of the South Pacific requires a Director to take charge of the general administration, supervision and development of the University Media Unit. The successful applicant will be responsible to the Vice-Chancellor of the University and will provide services to all parts of the University, and in particular to prepare and teach a variety of educational media training courses for on-campus students and regional students. The Unit and for development and production of audio, video and video materials required by the Extension Services. The successful applicant should have a minimum of five years' experience in media training, audio and video production, and production and direction experience in video plus one or more of the following: audio recording, photography and photographic processing, audio-visual teaching aids production and projection systems, off-camera video equipment operation, video editing, script writing, production and direction.

Salary will be in accordance with qualifications and experience in one of the following scales: £15,000 - £18,000 (Senior Lecturer), £12,000 - £15,000 (Lecturer), £10,000 - £12,000 (Senior Lecturer), £8,000 - £10,000 (Lecturer). The University provides a fully furnished house, car, and other benefits. The University's current housing policy is to provide accommodation at a rental of 10% of salary. The University will contribute a sum equivalent to 10% of the appointee's salary. The appointee will be employed on a full-time basis and may be renewed by mutual agreement.

Candidates should send three copies of their curriculum vitae with full personal details, including date of birth, date of arrival in Fiji, and date of departure from Fiji, to the Registrar, The University of the South Pacific, P.O. Box 118, Suva, Fiji, to reach him by 15th April 1985. The successful candidate will be required to undertake an additional copy to the Registrar, The University of the South Pacific, P.O. Box 118, Suva, Fiji, to reach him by 15th April 1985. The successful candidate will be required to undertake an additional copy to the Registrar, The University of the South Pacific, P.O. Box 118, Suva, Fiji, to reach him by 15th April 1985.

The University of the West Indies
Mona, Jamaica
Applications are invited for a post of
SENIOR RESEARCH FELLOW/RESEARCH FELLOW

to serve as Faculty of Agriculture Research Fellow. The successful candidate should hold a degree in Agriculture or Agricultural Science, and a postgraduate degree in Crop Science or related field. The successful candidate should have a minimum of five years' experience in research in the field of Agriculture. The successful candidate should have a minimum of five years' experience in research in the field of Agriculture. The successful candidate should have a minimum of five years' experience in research in the field of Agriculture.

Salary Scales: Senior Research Fellow: £20,000 - £25,000; Research Fellow: £15,000 - £20,000. The University provides a fully furnished house, car, and other benefits. The University's current housing policy is to provide accommodation at a rental of 10% of salary. The University will contribute a sum equivalent to 10% of the appointee's salary. The appointee will be employed on a full-time basis and may be renewed by mutual agreement.

The University of Stirling
Institute for Retail Studies
Department of Business Studies
RESEARCH FELLOW

Applications are invited for the above post to work on a research project in the field of retail studies. The successful candidate should have a minimum of five years' experience in research in the field of retail studies. The successful candidate should have a minimum of five years' experience in research in the field of retail studies. The successful candidate should have a minimum of five years' experience in research in the field of retail studies.

University of Hong Kong
Applications are invited for the following posts in the Department of Extra-Mural Studies:

SENIOR STAFF TUTOR/STAFF TUTOR IN MANAGEMENT STUDIES

Applications are invited for a permanent Lectureship recently created in the Department of Information Technology. The successful candidate should have a minimum of five years' experience in research in the field of information technology. The successful candidate should have a minimum of five years' experience in research in the field of information technology.

Annual salaries (supernumerary) are: Senior staff tutor: £17,420 - £20,000; Staff tutor: £15,000 - £17,420. The University provides a fully furnished house, car, and other benefits. The University's current housing policy is to provide accommodation at a rental of 10% of salary. The University will contribute a sum equivalent to 10% of the appointee's salary. The appointee will be employed on a full-time basis and may be renewed by mutual agreement.

University of Leicester
Faculty of Law
LECTURESHIP IN LAW

Applications are invited for a Lectureship in the Faculty of Law. The successful candidate should have a minimum of five years' experience in research in the field of law. The successful candidate should have a minimum of five years' experience in research in the field of law.

University of Leicester
School of Education
LECTURER IN NURSERY/INFANT EDUCATION

Applications are invited from suitably qualified graduates with relevant teaching experience in the 3 - 8 age range for this Lectureship. The successful candidate should have a minimum of five years' experience in research in the field of nursery/infant education. The successful candidate should have a minimum of five years' experience in research in the field of nursery/infant education.

The University of Sussex
LECTURER IN ECONOMETRICS AND APPLIED STATISTICS

This is a joint appointment in Economics and Mathematics involving teaching and research in Applied Statistics, Econometrics and the application of statistical models and quantitative techniques to economic problems. The successful candidate should have a minimum of five years' experience in research in the field of econometrics and applied statistics. The successful candidate should have a minimum of five years' experience in research in the field of econometrics and applied statistics.

Brunel University
Department of Economics
LECTURESHIPS IN ECONOMICS

University of London
The London School of Economics
RESEARCH OFFICER(S) SYSTEMS ANALYSIS/SOCIAL ADMINISTRATION

Applications are invited for the post of Research Officer in the Department of Information Technology. The successful candidate should have a minimum of five years' experience in research in the field of information technology. The successful candidate should have a minimum of five years' experience in research in the field of information technology.

Annual salaries (supernumerary) are: Senior research officer: £17,420 - £20,000; Research officer: £15,000 - £17,420. The University provides a fully furnished house, car, and other benefits. The University's current housing policy is to provide accommodation at a rental of 10% of salary. The University will contribute a sum equivalent to 10% of the appointee's salary. The appointee will be employed on a full-time basis and may be renewed by mutual agreement.

University of Dundee
Department of Medicine
'NEW BLOOD' LECTURESHIP (NON-CLINICAL) GALLBLADDER DISEASE AND BIOCHEMISTRY

This 'New Blood' post provides an outstanding opportunity for a candidate with a Ph.D. in a relevant field. The successful candidate should have a minimum of five years' experience in research in the field of gallbladder disease and biochemistry. The successful candidate should have a minimum of five years' experience in research in the field of gallbladder disease and biochemistry.

McMaster University
Department of Geography
TWO TENURE TRACK POSITIONS IN HUMAN GEOGRAPHY

One of these may be at the rank of Associate Professor and the other at the rank of Assistant Professor. The successful candidate should have a minimum of five years' experience in research in the field of human geography. The successful candidate should have a minimum of five years' experience in research in the field of human geography.

University of Edinburgh
Department of History
'NEW BLOOD' LECTURESHIP IN MODERN CHINESE HISTORY

Applications are invited for a Lectureship in the Department of History. The successful candidate should have a minimum of five years' experience in research in the field of modern Chinese history. The successful candidate should have a minimum of five years' experience in research in the field of modern Chinese history.

University College of North Wales
Coleg Prifysgol Gogledd Cymru
LECTURESHIP IN AGRICULTURE

Victoria University of Wellington
New Zealand
LECTURERS/SENIOR LECTURERS IN BUSINESS ADMINISTRATION

Applications are invited for the post of Lecturer in the Department of Business Administration. The successful candidate should have a minimum of five years' experience in research in the field of business administration. The successful candidate should have a minimum of five years' experience in research in the field of business administration.

University of Glasgow
Department of General Practice
PART-TIME LECTURER/SENIOR LECTURER

Applications are invited for the post of Part-time Lecturer in the Department of General Practice. The successful candidate should have a minimum of five years' experience in research in the field of general practice. The successful candidate should have a minimum of five years' experience in research in the field of general practice.

University of Oxford
Wadham College
TEMPORARY LECTURESHIP IN LAW

The College invites applications for a temporary Lectureship in the Faculty of Law. The successful candidate should have a minimum of five years' experience in research in the field of law. The successful candidate should have a minimum of five years' experience in research in the field of law.

University of Edinburgh
Department of History
'NEW BLOOD' LECTURESHIP IN MODERN CHINESE HISTORY

Applications are invited for a Lectureship in the Department of History. The successful candidate should have a minimum of five years' experience in research in the field of modern Chinese history. The successful candidate should have a minimum of five years' experience in research in the field of modern Chinese history.

University of Glasgow
Department of Surgery
LECTURESHIP IN SURGERY

Applications are invited for a Lectureship in the Department of Surgery. The successful candidate should have a minimum of five years' experience in research in the field of surgery. The successful candidate should have a minimum of five years' experience in research in the field of surgery.

Polytechnics continued

Applications are invited for the following posts:
Salary Ranges: (Under Review)
L1 £7,548 - £11,175 BAR £12,099
SL £11,175 - £15,120 BAR £14,081
PL £15,085 - £15,540 BAR £16,467

Faculty of Education
Candidates should possess an advanced qualification in education, have recent teaching experience in the relevant area and be actively involved in research.

Department of Teaching Studies
LECTURER II/SENIOR LECTURER IN CRAFT, DESIGN AND TECHNOLOGY EDUCATION (2 posts)
Required to make a major contribution to the training of C.D.T. teachers within the B.Ed. degree and within in-service courses. Applicants should have a particular interest and expertise in either the teaching of Design in its broadest sense or, in Technology with Electronics and the use of Microcomputers.

Department of PE & Creative Studies
LECTURER II/SENIOR LECTURER IN DRAMA IN EDUCATION (1 YEAR FIXED TERM)
Required to contribute to the B.Ed. Honours Degree for Primary Schools and the B.Ed. Honours degree for Secondary (Community) Schools and oral communicative courses. Applicants should have recent experience of teaching Drama in Primary Schools and hold a degree with specialism in Drama.

Faculty of Engineering
Department of Civil Engineering (2 posts)
LECTURER IN THE THEORY AND DESIGN OF STRUCTURES AND LECTURER IN HYDRAULICS
Required to teach undergraduate and postgraduate work and to promote research, one of these appointments could be at Principal Lecturer level. Candidates should be Chartered Engineers with a good honours degree in Civil Engineering and preferably a higher degree. Teaching and research experience are considered desirable but not essential, and candidates with a good industrial background will be considered. Consultancy activities will be encouraged.

Department of Psychology
LII IN PSYCHOLOGY (TWO POSTS)
Salary: £7548-£12099 (Normally with further advancement to £14061)
Applications are invited for the above posts, one of which is a replacement for an existing temporary lectureship, the other of which is a new position. Applicants are invited from well-qualified candidates in any field, but the Department is hoping to strengthen its expertise in Developmental and Applied Psychology. This latter area can be taken to include human factors, industrial and occupational psychology, education and training, health and social services, applied social psychology and human-computer interaction.

Bristol Polytechnic
Department of Computer Studies and Mathematics
PRINCIPAL LECTURER IN COMPUTING
Ref. No. L10
LECTURER II/SENIOR LECTURER IN COMPUTING
Ref. No. L11
Two new posts in computing are available within an existing department which in the last year has received the approval for a B.A. Systems Analysis, two Faculty based BSc degrees in the area of Microcomputers, Computing and Information Systems and a Diploma for Teachers of Computing Studies. In addition Computer Studies began two years ago. This expansion is accompanied by very substantial build-up in research and consultancy.

Strathclyde
EDUCATION DEPARTMENT
SENIOR APPLICATIONS PROGRAMMER ADVISER
Glasgow College of Technology, Cowcaddens Road, Glasgow
Salary Scale: S.O.2-£12,660-£13,680
Applications are invited from candidates with a degree or equivalent in a relevant discipline. Experience in educational computing is required with particular experience in one of the following: data base/information retrieval; communications; networks; office systems/personal computers. Experience of CEO systems would be advantageous.

Plymouth Polytechnic
Applications are invited for the post of Lecturer in the Department of Business Administration. The successful candidate should have a minimum of five years' experience in research in the field of business administration. The successful candidate should have a minimum of five years' experience in research in the field of business administration.

Department of Electrical, Electronic and Control Engineering
LECTURER II/SENIOR LECTURER (3 posts)
The Department is designated as a centre of excellence in Information Technology and is now seeking to appoint three Lecturers in September 1985 to support further developments. Experience in the areas of Software Engineering, Electrotechnology, Electrical Power, V.L.S.I. Design and/or Microprocessor Engineering would be a significant advantage. Recently qualified graduates and postgraduates will be considered for appointment at the Lecturer II level.

Faculty of Humanities
Department of Social Sciences
PRINCIPAL LECTURER IN PSYCHOLOGY
The appointee would be expected to provide academic leadership and to lead course development in psychology within the department. Expertise in social psychology and an interest in its applications to information technology would be a particular advantage.

Faculty of Science
Department of Mathematics and Computer Studies
LECTURER FOR COMMERCIAL AND INDUSTRIAL DATA PROCESSING
Vacancies exist within a large and active team of lecturers responsible for developing and running courses in the application of computer systems to industry and commerce. The courses are at HNC, HND and Honours Degree level. Research degree supervision is also undertaken and postgraduate course is under development. Those with and without lecturing experience are encouraged to apply. Knowledge of one or more of the following areas would be of particular interest:

Structured analysis, design and programming
Real-time systems and communications
Fourth generation systems

Faculty of Pharmaceutical Sciences
Department of Pharmacology
LII IN PHARMACOLOGY - 1 YEAR FIXED TERM
Responsible for teaching pharmacology and/or physiology, biochemistry and toxicology to students reading for degrees in B.Sc. (Hons) Pharmacology; B.Sc. (Hons) Pharmacy; or B.Sc. Combined Studies in Science. Research activities will be encouraged.

SUNDERLAND POLYTECHNIC
Closing date for all applications 28th April 1985.
PLEASE QUOTE REFERENCE NUMBER IN ALL COMMUNICATIONS.

PROFESSOR AND HEAD OF DEPARTMENT OF BUSINESS MANAGEMENT (Grade VI)
Applications are invited for appointment to the above post from suitably qualified persons having experience in higher education, business, industry, and commerce. The successful candidate will be required to exercise leadership, encourage growth and change in Business Management, and to initiate discussions on re-structuring of Business Management within the Polytechnic.

SUNDERLAND POLYTECHNIC
FOR DETAILS OF ADVERTISING IN THE T.H.E.S. PLEASE RING SUE PELOW 01-253 3000 EXTN. 226

